Buildings of the Temple University Medical Center

School of Medicine



Temple University Hospital

BULLETIN OF

TEMPLE UNIVERSITY

SCHOOL OF MEDICINE

BROAD AND ONTARIO STREETS

WILLIAM N. PARKINSON, DEAN

ANNOUNCEMENT FOR THE SESSIONS 1957 1959

PUBLISHED BY

TEMPLE UNIVERSITY

BROAD STREET AND MONTGOOMERY AVENUE

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CALENDAR

1957

JANUARY

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CALENDAR FOR THE YEAR 1957 1958

Registration,	
First Year	September 9 9 a.m.
Second Third and Fourth Years	September 10, 9 a.m.
Classes Commence	September 9
Thanksgiving recess	November 27 5 p.m. to December 2, 8 a.m.
Christmas recess	December 21 Noon
Classes resume	January 6, 8 a.m.
Easter recess begins (first and second years)	March 29 5 p.m.
Easter recess begins (third and fourth years)	April 3 5 p.m.
Classes resume	April 7 8 a.m.
Classes end for first, second and third years	June 14
Fourth year classes end	May 6
Commencement	June 12

CALENDAR

1958-1959

Dates for the 1958-1959 calendar will be announced in August, 1958

CALENDAR

1958

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EDUCATION FOR RESPONSIBLE CITIZENSHIP

We, the members of the Faculties, the Officers, and the Trustees of Temple University into whose keeping there have been committed those traditions of Temple University which emphasize alike the development of the individual and service to the community:

Seeking to be faithful to the purposes which led our Founder Russell H. Conwell, to establish this university as a place where "all young men and young women with good minds and the will to work" might secure a sound education.

Being mindful of our obligation to develop in our students those qualities of mind and spirit which fit them to meet, in fullest possible measure, the growing responsibilities of good citizenship in a self governing society.

Viewing our task in the light of today's circumstances and the indicated needs of the future do hereby conceive these to be the guiding principles and purposes of Temple University.

1. We hold it to be our first obligation to prepare our students, according to their separate qualities, aptitudes and interests, for useful and responsible citizenship illumined by those precepts fundamental to our American heritage.
2. We shall seek to provide the opportunities for education and self-fulfillment to qualified applicants, without regard to race, creed or station in life.
3. At levels appropriate to a university we shall undertake to train all who come to us in those cultural, scientific, professional and utilitarian branches of learning for which needs exist and which fit individuals for lives of increasing worth to themselves and to society.
4. We shall strive to preserve flexibility in our programs and policies in order that we may be responsive to new and changing educational needs.
5. We deem it within our essential province to sponsor and encourage research and advanced study and thereby help to enlarge the field of established truth and human knowledge.
6. In the teaching process and in relationships between teachers and students we shall lay stress on social and moral values, without which learning is lacking in direction and constructive purpose.
7. We shall keep constantly before us the basic truth that the unit of society is the individual: that except as large numbers of individuals grow in mental, moral and social stature, there can be no quickening progress of mankind.



St Christopher's Hospital (Children)
Pediatric Department of Temple University

Admission

Affiliated Hospitals—Temple University Medical Center



Philadelphia General Hospital
Northern Division



Skin and Cancer Hospital



Albert Einstein Medical Center
Northern Division



Episcopal Hospital



Shriners Hospital
(Crippled Children)



Public Health Center #8

Admission

Requirements for Admission

The following are the minimum requirements for consideration for admission to the School of Medicine and must be fulfilled entirely by each applicant prior to admission

1. A four year high school course.
2. At least 90 semester hours of work in an approved college of arts and sciences, which should include 8 hours of inorganic chemistry 4 hours of organic chemistry 8 hours of physics and 6 hours of English.

   The above studies should be supplemented when possible with courses in mathematics, qualitative analysis, quantitative analysis, physical chemistry embryology foreign language (Spanish, French or German) sociology and psychology—to prepare the student with a broad, well-balanced undergraduate education in the arts and sciences.
3. A satisfactory score in the Medical College Admission Test.

The undergraduate work must be fulfilled at a college included on the approved list of colleges of arts and sciences compiled yearly by the Council on Medical Education of the American Medical Association. Students with four years of college work are given preference over those with three years. In all cases, merely fulfilling the basic requirements for admission is not sufficient. The applicant must present evidence that the college work has been of such character as to give promise of work of the highest quality and that he possesses those personal attributes of character integrity intellectual interest, and sincere human fellowship that are essential to the growth and development of the competent physician.

Admission to the First Year Class

The procedure for admission is as follows. the prospective applicant requests the official application form from the Dean's Office of the Medical School. Both men and women students may apply The application form is filled in completely and a signed photograph attached securely where indicated on the form. The application form and fee are sent to the Office of the Dean. The applicant is required to have an official transcript of his college credits sent directly to the Dean's Office from the Office of the Registrar of the college or colleges attended. Two letters of recommendation from science professors under whom work was taken, or in lieu of this,

a single recommendation from the Committee on Recommendations at the college or colleges of attendance, is required.

When all credentials are complete and in order they are passed on by the Admissions Committee of Temple University School of Medicine. If approved, they are forwarded to the Director of the Preprofessional Credentials Division of the Department of Public Instruction at Harrisburg, Pennsylvania, as required by the Medical Practice Act of Pennsylvania. If approved in turn by that Department, the student is notified that he has met the requirements for admission. The Department issues a medical student's Certificate of Preliminary Education for which the state charges a fee of two dollars. These certificates are applied for by the School after the opening of classes. The fee will be collected from the student at that time before the School requests the certificate. All matriculants in the Medical Schools of Pennsylvania must obtain a medical student's certificate.

The Dean shall have the right to reject any application for admission.

Admission to Advanced Standing

A limited number of students who have successfully completed two years of medical study in approved medical schools offering only the basic sciences may be admitted to advanced standing and become candidates for the degree of Doctor of Medicine under the following conditions: they must have fulfilled the requirements for admission enumerated above for admission to first year classes prior to their matriculation as students of medicine. They must be recommended by the Dean or by some other responsible officer of the school from which they come. They must furnish transcripts of their high school and college records as well as their medical school record showing them to be eligible for advanced standing in the school from which they seek to be transferred. This transcript must be signed by the Dean or official registrar of the medical school and the seal of the school must be stamped upon it.

Examinations

Both written and oral examinations are given at intervals during the school year. In order to pass a subject, students must attain at least 75 per cent in each subject examined. This rule is maintained throughout the four years of the course.

Promotion and Conditions

In order to be eligible for advancement with their respective classes, students are required to take the final examination at the

end of the session. Failure on the part of the student to do so, unless excused by the Dean for good and sufficient reasons, is deemed sufficient reason for forbidding such a student the right to examination in the fall and to further advancement with the delinquent's class.

Re-examinations will be given to first year students who failed to attain the passing grade of 75 in not more than one subject and to second and third year students who failed to pass in not more than two subjects. No re-examinations will be given to fourth year students.

Attendance at the University is a privilege and not a right. The University reserves the right, and the student, by his act of registration, concedes to the University the right, to require the withdrawal of any student at any time when it deems necessary to safeguard its ideals of scholarship and character and to secure compliance with its regulations. The rules and regulations as stated in this Bulletin are announcements and in no way serve as a contract between the student and the University.

Requirements for Graduation

The candidate must be at least twenty-one years of age, must have complied with all of the rules of the School of Medicine, and must pass an examination on each subject of the course with a general average in each branch of at least 75 per cent. He must show that he has attended four full courses of medical lectures. The last two courses, under all circumstances, must have been taken at this University.

The candidates must attend in person the annual commencement at which the degree is conferred.

Tuition and Fees

Tuition and Fees

First year course. Total amount of fees	$900.00
Matriculation fee (paid once only)	10.00
Tuition fee	$775.00
University fee	75 00
Student health fee	10.00
Breakage fee	30.00
Due at First Semester Registration	450 00
Due at Second Semester Registration	450.00
Second year course. Total amount of fees	$900.00
Tuition fee	$785 00
University fee	75 00
Student health fee	10.00
Breakage fee	30.00
Due at First Semester Registration	450 00
Due at Second Semester Registration	450 00
Third year course. Total amount of fees	$900.00
Tuition fee	$790.00
University fee	75 00
Student health fee	10.00
Breakage fee	25 00
Due at First Semester Registration	450 00
Due at Second Semester Registration	450 00
Fourth year course. Total amount of fees	$940 00
Tuition fee	$790.00
University fee	75 00
Student health fee	10.00
Graduation fee	40 00
Breakage fee	25 00
Due at First Semester Registration	450.00
Due at Second Semester Registration	490.00

Graduation fee includes diploma, yearbook (Skull) and life membership in General Alumni Association.

Regulations for Payment of Fees

The University reserves the right to change without notice the fees herein stated. Any change made will become effective at the beginning of the succeeding academic year.

A payment of $50 is required of all new matriculants and is credited toward tuition.

Tuition is payable in two installments, the first with the beginning of the school year, the second at the beginning of the second semester. Students who fail to meet this requirement will be charged with absences from all classes until their accounts have been settled or satisfactory arrangements made. All other fees and deposits must be paid at the beginning of the first semester for the full year. A fine of five dollars will be added to all fees not paid in full ten days after the beginning of each semester.

The University Fee is used for general University purposes, including student activities, health programs, publications, locker facilities, and University organizations. The Board of Trustees reserves the right to set aside twenty-five dollars therefrom to be used for the physical development of the University.

The following fees are never refunded for any reason: Matriculation Fee, University Fee and the $50.00 payment required of all new matriculants.

Remittances should be made in cash, by bank draft, certified check or money-order drawn for the exact amount and made payable to Temple University.

Deferred Payments—Any student needing help in financing the payment of tuition and fees may take advantage of a deferred payment plan on application to the Treasurer's Office. There will be a reasonable charge for this service.

Withdrawals—A student who desires permission to withdraw officially from all of his courses must send written notice to the Dean, together with his registration card, and state the reason for his withdrawal. If the request is approved, he may withdraw in good standing and file a "withdrawal card." The date of filing a withdrawal notice will in all cases be considered the date of withdrawal.

Bronchoesophagology—Courses of two weeks duration are given in Bronchoesophagology at various times during the year. The fee for one of these courses is $250.00, payable to Temple University, $25.00 of which should accompany the application. The balance will be due in the Dean's Office the first day of the course.

Medical Technology—A four year course is offered leading to the degree of Master of Science in Medical Technology Fees $200.00 a year

Master of Science—A two year course leading to the degree of Master of Science in Pathology Bacteriology Chemistry or Pharmacology is offered. This course is designed for those who hold a Bachelor's or higher degree from an accredited college or university Fees $500.00 a year

Student Health Service

All freshman students are given a complete physical examination including an X ray of the chest. Chest X rays are required yearly

Dispensary service—Students will be seen in the Student Dispensary at 5 p.m. daily Physicians will be in attendance for consultation. In an emergency students may report to the Accident Dispensary at any hour of the day or night. Hospital care will be arranged by the consulting physicians in the Student Dispensary and emergencies at the Accident Dispensary Student Health Service provides treatment for only those acute illnesses which develop after enrollment. Hospital care is provided in student wards. Charges will be made for expensive drugs and private duty nurses. If a student selects private accommodations, a 50% reduction on regular rates will be given.

The Health Service may be used only during the teaching year

A certification of successful vaccination is required from each student before registration.

Dormitories for Women

Dormitories for women students are located at 1409-11 West Ontario Street. Arrangements concerning living accommodations may be made in the Office of the Dean.

Microscopes

All students will be supplied by the School with microscopes as needed for student instruction or while working on research problems.

Research Funds

Agnes Barr Chase Surgical Research Foundation —Dr Theodore L. Chase of Reno, Nevada, by a gift of $1 000,000 has established in the Temple University School of Medicine and Hospital the Agnes Barr Chase Surgical Research Foundation in memory of his wife, Agnes Barr Chase, M.D who was graduated from the

Temple University School of Medicine in the class of 1909. The purpose of this foundation is the furtherance of research in general surgery with particular emphasis on study of the cause or causes of cancer.

The laboratories of the Chase Foundation are situated on the seventh floor of the Temple University School of Medicine, and the clinical application is conducted in the Temple University Hospital.

FELS RESEARCH INSTITUTE OF TEMPLE UNIVERSITY SCHOOL OF MEDICINE.—Mr. Samuel S. Fels, who was a well known Philadelphia philanthropist, established and supported in the Temple University School of Medicine the Samuel S. Fels Medical Research laboratories for research in Gastroenterology and Cancer. The grant for the year 1957-58 will be $181,126.20.

THE JULIA SPENCER SMITH OPHTHALMOLOGICAL RESEARCH FUND.—The income is used for two research problems: 1. In orthoptic training on preoperative and postoperative strabismus cases. 2. Transplantation of the cornea in animals blind from corneal leukomas.

Medical Research Grants

1956-1957

United States Public Health

Dr. Blady	$ 25,000.00	Tumor Clinic
Dr. English	48,509.00	Psychiatry
Dr. English	24,840.00	Psychiatry
Dr. Ellis	18,400.00	Pharmacology
Dr. Oppenheimer	24,948.00	Physiology
Dr. Schultz	8,964.00	Biochemistry
Dr. Harris	11,799.00	Hematology
Dr. Baldridge	4,783.00	Chemistry
Dr. Kimmel	6,670.00	Neurophysiology
Dr. Spiegel	8,436.00	Physiology
Dr. Robbins	26,123.00	Radiobiology
Dr. John Hartman	5,163.00	Anatomy
Dr. Oppenheimer	7,986.00	Physiology
Dr. Evans & Dr. Oppenheimer	6,837.00	Physiology
Dr. Stauffer & Dr. Camberlain	16,376.00	Radiobiology
Dr. Menkin	17,480.00	Pathology
Dr. Scholtz	5,000.00	Biochemistry
Dr. Schultz	36,090.00	Biochemistry
Dr. Parkinson	3,456.00	Fellowships

Dr Shay	$10 350 00	Gastro-enterology
Dr Sevy	14 140 00	Pharmacology
Dr Wiedeman	5 176.00	Physiology
Dr Spiegel	250.00	Physiology
Dr Oppenheimer	4 916.00	Physiology
Dr Oppenheimer & Dr Durant	6,957 00	Physiology
American Fund for Psychiatry—Dr Hoffman	6,000.00	Psychiatry
American Heart Association Inc.—Dr M. Hartman	4 400.00	Anatomy
Life Insurance Medical Research Fund—Dr M. Hartman	4 400.00	Anatomy
Samuel S. Fels Fund	166,466.40	Gastro-enterology
Institute for Direct Analysis—Dr English	69 050.00	Psychiatry
Schering Corp.—Dr Shay	7,500.00	Gastro-enterology
Naval Research—Dr Zarafonetis	10 000.00	Mend Program
Heart Association of S. E. Penna.—Dr Zatuchni	5 000.00	Heart
Smith, Kline and French Laboratories—Dr Shay	5 500 00	Gastro-enterology
G D Searle & Co.—Dr Shay	2,500 00	Gastro-enterology
Standard Oil Company—Dr Scheflen	12,000.00	Psychiatry
Wyeth Inc.—Dr Shay	5 000.00	Gastro-enterology
The Commonwealth Fund	102 734 00	Comprehensive Med.
The Arthritis and Rheumatism Foundation—Dr Perloff	5 000.00	Endocrine Studies
	$754 199 40	
Special Teaching Grants	229 487 00	
Research Grants	$524 712 40	

May 10, 1957

Student Loan Funds

Irvin Bendiner Memorial	$8 500.00
Frank and Rose Strick Memorial	11,200.00
Kellogg Foundation	6,000.00

Courses of Instruction

Courses of Instruction

ANATOMY

John Franklin Huber, A.B., M.A., M.D., Ph.D.
Professor and Head of the Department of Anatomy
M. Noble Bates, A.B., A.M., Ph.D. — *Assistant Professor of Anatomy*
John D. Hartman, M.D. — *Assistant Professor of Anatomy*
Mary Ellen Hartman, A.B., M.D. — *Instructor in Anatomy*
J. Robert Troyer, B.A., Ph.D. — *Instructor in Anatomy*
Leon J. Walker, Jr., B.A., M.Sc., Ph.D. — *Instructor in Anatomy*
Norman W. Rieck, A.B., M.S., Ph.D. — *Instructor in Anatomy*

Required Course—First Year

The students spend all of the first semester in the Department of Anatomy. During this time, the structure of the entire body is studied, each part being considered from the gross, microscopic and developmental standpoint as it is taken up. The apportionment of time to lecturing, demonstration, laboratory study (dissection and microscopic sections) and discussion of the work in groups differs from day to day depending upon how the different methods best contribute to the understanding of the part being studied.

The impression of gross anatomy as gained in the dissecting room is supplemented by lectures and demonstrations of anatomy as revealed by the Roentgen ray which are presented by the Department of Radiology.

As much of the study of the nervous system as possible is considered in connection with the parts of the body as they are encountered. Material that cannot be included logically in this manner is covered in a special consideration at the completion of the other work.

The entire staff of the department is available to the first year students during all of the time spent in Anatomy. The class is divided into groups with one assigned to each staff member. The groups are rotated so that each staff member has supervision of each section during part of the semester.

Required Course—Second Year

Two hours a week in the second semester are devoted to a review study of anatomy in which practical applied anatomy is stressed. Audio-visual aids are extensively used in the presentation of material.

ANATOMY—Continued

REQUIRED COURSE—THIRD YEAR

One lecture hour a week throughout the year is spent in the discussion of surgical anatomy. This work is presented by Dr. John R. Minehart of the Department of Surgery.

ANESTHESIOLOGY

LeRoy W. Krumperman, M.D. — *Professor and Head of Department of Anesthesiology*
Luther M. Greshheimer, B.S., M.A., Ph.D., M.D. — *Professor of Research, Department of Anesthesiology*
Sherman C. Meschter, M.D. — *Associate Professor of Anesthesiology*
Jacob B. Friedman, A.B., M.D. — *Associate Professor of Anesthesiology and Head of Department of Anesthesiology, St. Christopher's Hospital for Children*
Elbert L. Close, B.A., M.D. — *Associate in Anesthesiology*
Mary Ruth Wester, A.B., M.S., M.D. — *Instructor in Anesthesiology*
James C. Erickson, B.A., M.D. — *Instructor in Anesthesiology*
John Strenge, B.A., M.D. — *Assistant Instructor in Anesthesiology*
Joan Gambalvo, B.A., M.D. — *Assistant Instructor in Anesthesiology*
James Bruce, A.B., M.D. — *Assistant Instructor in Anesthesiology*
Ben Franklin Rusy, B.S., M.D. — *Assistant Instructor in Anesthesiology*
Wellington Hsu, M.D. — *Assistant Instructor in Anesthesiology*

Introduction to Anesthesiology

This is a course of lectures covering the principles of inhalation, regional, rectal, and intravenous anesthesia. Theories, stages, and signs of anesthesia are taught with a brief description of the various agents employed. These lectures correlate material presented during the first two years in pharmacology, physiology, and chemistry.

The recognition and treatment of shock, hemorrhage, drug overdosage, and asphyxia are stressed. Principles of diagnostic and therapeutic block, inhalation therapy, and resuscitation as well as intravenous therapy are included for one hour a week for eleven weeks in the third year.

Clinical Anesthesiology

Observation of anesthesia in the operating room is conducted. Students are allowed to administer anesthesia under strict supervision. Pre- and post-anesthesia ward rounds are made. Fourth year students are assigned in rotation, each receiving two weeks of full time service.

In addition to this, there is an elective course available to all senior medical students consisting of twelve hours of clinical anesthesiology.

DEPARTMENT OF AUDIO-VISUAL EDUCATION

Edwin S Gault, M D F.C.A.P
Associate Professor of Pathology and Microbiology Director
William J Taylor F.B.P A. *Medical Photographer and Associate Director*
William Jackson Taylor, J *Technical Assistant*

This department serves as the co-ordinating center for audio-visual educational techniques. Included are motion pictures, film strips with sound and such pictorial aids as supplied by the Division of Photography and Photomicrography which is under the direction of Mr Taylor The department offers such services as: (1) Maintenance of files of available medical motion picture films (2) Bi-weekly previews of new and outstanding films or other audio-visual aids (3) Maintaining a library of films available to both faculty and students (4) Guidance in the preparation of any photographic material, still or motion, as well as other audio-visual techniques.

DERMATOLOGY

Carroll S. Wright, B.S., M D
Professor and Head of the Department of Dermatology
Meyer L. Niedelmann, M D *Clinical Professor of Dermatology*
H. Harris Perlman, M.D *Associate Professor in Dermatology*
(Skin and Cancer Hospital St. Christopher's Hospital)
Elmer R. Gross, M D *Assistant Professor of Dermatology*
Isadore Zugerman, B S M.D *Clinical Professor of Dermatology*
(Episcopal Hospital)
John B. Roxby Jr A B M A., M D *Assistant Professor of Dermatology*
Donald N Tschan, M.D *Assistant Professor of Dermatology*
Adolph H Bleier M D *Assistant Professor of Dermatology*
Byron Clyman, M.D *Associate in Dermatology*
Samuel Perlstein, M.D *Associate in Dermatology*
J N Richardson, M.D *Instructor in Dermatology*
George Brown, M D *Instructor in Dermatology*
Louis D Hoffstein, M D *Instructor in Dermatology*
Abraham L. Cohen, M.D *Instructor in Dermatology*

The Junior year is devoted almost entirely to the subject of Dermatology The course consists of a weekly lecture and quiz, illustrated by lantern slides and simplified by presentation of typical cases when available. Two of these lectures, at the very end of the course, are devoted to the subject of Syphilis.

In the fourth year each student spends a designated number of hours in the Skin and Syphilis Clinic, where instruction is given in the diagnosis and treatment of skin diseases and in the therapy of Syphilis. Various laboratory techniques are demonstrated. There

DERMATOLOGY—Continued

is also an elective course for Senior students who are particularly interested in the subject of Dermatology. Fourth year students are taught both in the Dermatology Clinic at the Temple University School of Medicine, at the Skin and Cancer Hospital, 6th and Pine Streets and at the Philadelphia General Hospital Skin Clinic, 34th Street.

ENDOCRINOLOGY

William H. Perloff, B.A., M.D. — *Associate Professor of Medicine and Director of the Department of Endocrinology*
Harry E. Hadd, B.S., M.A. — *Instructor in Endocrinology*
Bertram J. Channick, B.A., M.D. — *Instructor in Endocrinology*
John H. Nodine, B.S., M.D. — *Instructor in Endocrinology*

In Endocrinology, five lectures are given to Sophomores, five *clinics are given to Juniors, and three conference hours to each* Senior section.

There are elective courses for Seniors given at Temple University.

LARYNGOLOGY AND BRONCHOESOPHAGOLOGY

Chevalier Jackson, M.D., Sc.D., LL.D., L.H.D., F.A.C.S., F.I.C.S. — *Honorary Professor of Laryngology and Bronchoesophagology*
Chevalier L. Jackson, A.B., M.D., M.Sc. (Medicine), F.A.C.S. — *Professor and Head of the Department of Laryngology and Bronchoesophagology*
Charles M. Norris, B.S., M.D., M.S. (Laryngology and Bronchoesophagology), F.A.C.S. — *Clinical Professor of Laryngology and Bronchoesophagology*
Emily L. Van Loon, M.D., F.A.C.S. — *Associate Professor of Laryngology and Bronchoesophagology*
Georgiana Peacher, B.S., M.S., Ph.D. — *Associate Professor of Phoniatrics*
Demo Kassay, M.D. — *Professor of Bronchoesophagologic Research*

The instruction in laryngology and bronchoesophagology consists principally of a series of lectures given to the junior students, in which they are taught the diagnosis and treatment of diseases of the larynx, with special consideration of the early diagnosis of laryngeal cancer. The uses of bronchoscopy and esophagoscopy in the diagnosis and treatment of disease, as well as in the removal of foreign bodies from the air and food passages, are illustrated with lantern slides and moving picture films. The etiology, symptomatology, diagnosis, and prophylaxis of foreign bodies are thoroughly discussed. The operation of tracheotomy and its indications and technique are also taught. In addition to the lectures, clinical work in laryngology and bronchoesophagology is demonstrated.

MEDICAL PHYSICS

George C. Henny A.B., M.S. (Physics) M.D.
Professor and Head of the Department of Medical Physics
George H. Stewart, B.S. in E.E. *Instructor in Medical Physics*
Eugene A. H. Meunier *Technician*

Instruction in fields of Medical Physics is divided into lectures and conferences. In the Freshman year in the course "Anatomy as Revealed by the Roentgen Ray" the production and properties of roentgen rays are discussed. The method and principles involved in the production of a roentgenogram of a patient are considered so that students viewing roentgenograms more fully comprehend what they see.

The beginning course in Physiology is started with a day devoted to statistics and to statistical analysis. After discussing the general field and the application of statistics to physiological and medical problems, the class moves to the Laboratory where they obtain experimental data on themselves. Back in the lecture room the data are analyzed by the statistical method and conclusions are drawn as to the degree of accuracy and the significance of the results. The design of an experiment, taking advantage of statistical methods, is also covered.

In the Junior course, "Pathology as Revealed by the Roentgen Ray" the biological effects of roentgen rays are considered. An application of roentgen rays in the quantitative measurement of some pathological conditions is illustrated. The most common uses of radioisotopes in medicine are described.

Senior sections in radiology are conducted through the Department of Radiology of the Medical Center. The principles involved in attaining the greatest amount of information on the finished roentgenogram are explained. The danger and avoidance of over exposure to roentgen rays are stressed.

Postgraduate lectures on the physical foundations of radiology are given to the Fellows in Radiology.

The Department is closely allied with the Department of Physiology.

An endeavor is made to maintain teaching methods at the highest level by the application of the latest electronic devices. Students are thus able to observe and to record many physiological phenomena as they occur. The records can be studied at once because time is not lost as it was in the older processing procedures.

*Original investigations in the field of medical physics are con*ducted throughout the year. Medical students are encouraged to consult with members of the Department on any applications in physics in the field of medicine in which they are interested.

MEDICINE

Temple University Staff

Richard A. Kern, A.B., M.D., LL.D., Sc.D., F.A.C.P. — *Professor of Medicine Emeritus*

Thomas M. Durant, B.S., M.D., F.A.C.P. — *Professor and Head of the Department of Medicine*

Edward Weiss, M.D., F.A.C.P. — *Professor of Clinical Medicine*

Harry Shay, M.D., F.A.C.P. — *Professor of Clinical Medicine*

John Lansbury, M.D., C.M., M.S. (Medicine), F.A.C.P. — *Professor of Clinical Medicine*

Louis A. Soloff, B.A., M.D., F.A.C.P. — *Clinical Professor of Medicine*

Stroughton R. Vogel, M.D., M.S. (Medicine), F.A.C.P. — *Clinical Professor of Medicine*

Isadore Wilcher Ginsburg, A.B., M.D., M.S. (Medicine), F.A.C.P. — *Clinical Professor of Medicine*

Louis Tuft, M.D., F.A.C.P. — *Clinical Professor of Medicine*

Chris J. D. Zarafonetis, B.A., M.S. (Zoology), M.D., F.A.C.P. — *Clinical Professor of Medicine (Hem.)*

Sherman F. Gilpin, B.S., M.D. — *Clinical Professor of Neurology*

George Elbert Farrar, Jr., B.S., M.D., F.A.C.P. — *Associate Professor of Medicine*

Hugo Roesler, M.D., F.A.C.P. — *Associate Professor of Medicine (Card.)*

William H. Perloff, B.A., M.D. — *Associate Professor of Medicine (Endo.)*

George E. Mark, Jr., B.S., M.D., M.S. (Medicine), F.A.C.P. — *Associate Professor of Medicine*

Robert V. Cohen, B.A., M.D. — *Associate Professor of Medicine*

Ellis B. Horwitz, M.D. — *Assistant Professor of Medicine (G.I.)*

Ralph A. Kleman, B.S., M.D. — *Assistant Professor of Medicine*

George I. Blumstein, B.A., M.D., F.A.C.P. — *Assistant Professor of Immunology*

Morris Kleinbart, M.D., F.A.C.P. — *Assistant Professor of Medicine*

Stanley H. Lorber, A.B., M.D. — *Assistant Professor of Medicine*

Charles R. Shuman, A.B., M.D., M.S. (Medicine), F.A.C.P. — *Assistant Professor of Medicine*

William A. Steiger, A.B., M.D., F.A.C.P. — *Assistant Professor of Medicine*

Norman Learner, B.S., M.D., M.S. (Medicine), F.A.C.P. — *Assistant Professor of Medicine*

Jacob Zatuchni, A.B., M.D., M.S. (Medicine), F.A.C.P. — *Assistant Professor of Medicine*

Carmen T. Bello, B.S., M.D., M.S. (Medicine) — *Associate in Medicine*

Howard N. Beler, B.S., M.D., M.S. (Medicine) — *Associate in Medicine*

S. Philip Bralow, B.S., M.D., M.S. (Medicine), F.A.C.P. — *Associate in Medicine (G.I.)*

Albert J. Finestone, A.B., M.D., M.S. (Medicine) — *Associate in Medicine*

Walter J. Levinsky, B.S., M.D. — *Associate in Medicine*

Donald J. Ottenberg, B.S., M.D., M.S. (Medicine) — *Associate in Medicine*

MEDICINE—Continued

Emanuel M. Weinberger B.A., M.D — *Associate in Medicine*
Severe F Madonna, M D — *Instructor in Medicine*
Harold L. Hyman, M.D M.S. (Medicine) — *Instructor in Medicine*
C. Charles Imperiale, A.B M.D — *Instructor in Medicine*
Halsey F Warner B A., M D M.S. (Medicine) — *Instructor in Medicine*
John H Kolmer B S M D M S (Medicine) — *Instructor in Medicine*
John H Doane, Jr B S M.D — *Instructor in Medicine*
Stewart McCracken, A.B., M.D M.S. (Medicine) — *Instructor in Medicine*
Joseph A. Pescatore, M D — *Instructor in Medicine*
Seymour M. Shore, B A., M D — *Instructor in Medicine*
Linton Wilde Turner, B.A., M D M.S. (Medicine) — *Instructor in Medicine*
Lyndall Molthan, B S., M D M.S. (Medicine) — *Instructor in Medicine*
Francis J Marx, M.D — *Instructor in Medicine*
Fred B Rogers, A B., M.D M.S. (Medicine) M.P.H — *Instructor in Medicine*
David C. H. Sun, M.D M.S. (Medicine) D Sc. (Medicine) — *Instructor in Medicine*
Donald Berkowitz, B.A., M.A. (Chemistry) M.S. (Chemistry) M D — *Instructor in Medicine*
Bertram J Channick, B.A., M D — *Instructor in Medicine*
John D McMaster B S M.D — *Instructor in Medicine*
Charles R. Bepler M D M S. (Medicine) — *Instructor in Medicine*
Charles Harris, B.A M.D — *Instructor in Medicine*
Gladys M. Miller, B S., M.D M.S. (Medicine) — *Instructor in Medicine*
John H Nodine, B S M D — *Instructor in Medicine*
Herbert L. Hyman, B.S., M.D F.A.C.P — *Assistant Instructor in Medicine*
Marjorie Irwin Robbins, A.B., M.S. (Medical Technology) — *Assistant Instructor in Medicine (Hem.)*
Elizabeth J Moses, B.S. — *Assistant Instructor in Medicine (Hem.)*
Arthur Q Penta, M.D — *Lecturer in Medicine (Mycology)*

Albert Einstein Medical Center—Northern Division Staff

Joseph C. Doane, M.D F.A.C.P — *Professor of Clinical Medicine*
Charles H Kravitz, M.D F.A.C.P — *Professor of Clinical Medicine*
Samuel Baer, M D — *Assistant Professor in Medicine*
Frederick P Adelman, M D — *Assistant Professor in Medicine*
Benjamin A. Gooley M.D F.A.C.P — *Assistant Professor in Medicine*
Albert B. Katz, M.D F.A.C.P — *Assistant Professor in Medicine*
Meyer Somers, M D — *Assistant Professor in Medicine*
Joseph Weiner M D F.A.C.P — *Assistant Professor in Medicine*
Albert Adlin, M.D — *Associate in Medicine*
Michael Brylawski, M D — *Associate in Medicine*
Henry Dudnick, M.D — *Associate in Medicine*
William Heine, M.D — *Associate in Medicine*

MEDICINE—Continued

George Hollander M.D. — *Associate in Medicine*
Sidney O Krasnoff M.D. F.A.C.P. — *Associate in Medicine*
Leonard Malamut, M.D. — *Associate in Medicine*
William Menin, M.D. — *Associate in Medicine*
Robert Pressman, M.D. — *Associate in Medicine*
Bernard Slipakoff, M.D. — *Associate in Medicine*
Leonard Levick, M.D. — *Instructor in Medicine*
Richard Monheit, M.D. — *Instructor in Medicine*
Aaron Rosenthal, M.D. — *Instructor in Medicine*
Leon Schwartz, M.D. — *Instructor in Medicine*
Laurence B. Weiss, M.D. — *Instructor in Medicine*

Episcopal Hospital Staff

Director

Stoughton R. Vogel, M.D., M.S. (Medicine), F.A.C.P. — *Clinical Professor of Medicine*

Associates

George G. Green, A.B., M.D. — *Instructor in Medicine*
Meyer Perchonock, B.S., M.D. — *Assistant Professor of Medicine*

Assistant

Marjorie A. Meyer, A.B., M.D. — *Instructor in Medicine*

Clinical Assistant

George F. Shugert, M.D. — *Instructor in Medicine*

Head of Section of Cardiology

Louis A. Soloff, B.A., M.D., F.A.C.P. — *Clinical Professor of Medicine*

Associate

Jacob Zatuchni, A.B., M.D., M.S. (Medicine), F.A.C.P. — *Assistant Professor of Medicine*

Assistant

Richard B. Baker, B.A., M.D. — *Instructor in Medicine*
Certified by the Board of Internal Medicine

Philadelphia General Hospital Staff

Thomas M. Durant, B.S., M.D., F.A.C.P. — *Professor of Medicine*
Robert V. Cohen, B.A., M.D. — *Associate Professor of Medicine (N. Div.)*
John D. Hallahan, B.S., M.D., M.S. (Medicine), F.A.C.P. — *Associate in Medicine*
Charles R. Bepler, M.D., M.S. (Medicine) — *Instructor in Medicine*
Edward L. Pennes, M.D. — *Instructor in Medicine (N. Div.)*

MEDICINE—Continued

Instruction in medicine is given throughout the four years of study. Formerly, in all medical schools, there was a sharp division in the curriculum between the first two years, often called preclinical, devoted wholly to the basic sciences, and the last two or clinical years. Today, in order to show the student the practical application of the facts learned in anatomy, chemistry, physiology, bacteriology, pharmacology and pathology, a considerable amount of teaching in the clinical branches has been introduced into the first two years. Correlation between basic sciences and clinical subjects does not end there. In the last two years, both teachers and teaching in basic sciences have been introduced into the program of clinical instruction. In this way the student learns the proper emphasis that is merited by the basic sciences and, by reason of their constant recurrence in the study of the clinical problems of the individual patients, he never loses sight of their value and proper application. In this manner an effort is made to present a well balanced course of instruction in both the art and the science of medicine for the purpose of broad training and experience, and without any effort toward specialization.

Instruction is given by means of lectures, recitations, amphitheater clinics, clinico-pathological conferences and staff meetings, and by practical work in the out-patient departments and in the wards of the several hospitals listed earlier in the bulletin. Didactic lectures are started in the second semester of the second year and are continued to the end of the third year. As the student progresses, more emphasis is placed on individual teaching at the bedside, and on the study of the patient under the direct supervision of an instructor when the student serves as a clinical clerk in the ward or out-patient departments, including the special medical clinics devoted to cardiology, gastroenterology, diseases of metabolism, applied immunology and allergy, hematology, arthritis, endocrinology, peripheral vascular diseases, and hypertension. In the third year this contact with patients is gained during clinical clerkships on hospital wards five mornings a week for a total of 18 hours weekly. In the fourth year there is some work in the hospital but more in the Out-Patient Departments. Third year students require more time to study patients and ward patients have the time to be studied. Out-patients present earlier and more subtle problems and so are best seen by senior students.

The course also provides laboratory instruction in clinical pathology and provides the student with facilities for conducting all routine laboratory examinations required in the study of individual patients in the medical wards and out-patient department.

MEDICINE—Continued

Senior students are given the opportunity to take elective courses during a three hour period one afternoon a week throughout the year. These courses are offered by various members of the staff to a limited number of students who are given preference according to their class standing. This insures a certain amount of personal teaching in small groups. The subjects may be clinical or investigative.

Students are introduced early to medical literature and its standard indices. They are required to consult monographs and original articles in journals, as well as textbooks for part of their information. During the fourth year they are assigned the preparation of papers upon individual cases or subjects to be presented to the class and discussed in clinical conferences. When such presentations merit it, they are recommended for publication in medical journals.

In addition to the teaching of medicine, the Department also places proper emphasis upon original investigations to advance our knowledge of disease. Therefore, students who are properly qualified may under departmental supervision, pursue such studies independently or in association with their instructors.

Students are required to wear clean white coats while on duty in hospitals or medical clinics.

FIRST YEAR

History of Medicine 10 hours

Dr Rogers.

This course in the History of Medicine presented early in the first year and illustrated with numerous slides, enables the student to appreciate the evolution of his profession as a developing panorama throughout the ages. These lectures continue the course given by the late Victor Robinson, M.D. Professor of History of Medicine at Temple University from 1929 to 1947. Major topics discussed include Ancient and Primitive Medicine Greek and Roman Medicine Arabic and Medieval Medicine Medicine and Science in the Renaissance; Seventeenth Century Medicine; Eighteenth Century Medicine; Nineteenth Century Medicine, Landmarks in American Medicine Twentieth Century Medicine and Problems of Medicine Today This series of lectures begins early in October and extends through early December of the first year

Clinics in Medicine and Correlation. 32 hours

Professor Kolmer

Professor Kolmer gives a bi-weekly clinic on medicine and correlation in the hospital to bring the student at once into a medical atmosphere with an early and prompt realization of the opportunities and responsibilities of the profession which he or she is preparing to enter The course is designed to bring the student into close contact with selected cases and the clinical applications of the fundamental sciences of Anatomy Chemistry and Physiology in relation to the manifestations, courses, and principles of treatment of the diseases selected for presentation and discussion.

MEDICINE—Continued

Correlation Conferences. 16 hours

Under the guidance and direction of the Comprehensive Medicine Group (Internal Medicine, Psychiatry and Social Service) sixteen hours are devoted to correlation of the basic science material being taught in anatomy and physiology with clinical material. The philosophy that patient is a person influenced by and influencing his ecology is introduced. The value of basic science knowledge to a practicing clinician is graphically illustrated.

SECOND YEAR

Clinical Laboratory Diagnosis. 50 hours

Dr Zarafonetis and Assistants.

This course is given during the first ten weeks of the first semester Dr Zarafonetis gives twenty hours of lecture on clinical laboratory methods and their application. The class is divided into two sections for laboratory instruction and each section devotes three hours weekly to laboratory work performed by the students. Special emphasis is placed on proper interpretation of test results

Physical Diagnosis and History Taking 33 hours

Dr Mark.

During the year Dr Mark gives weekly lectures on physical diagnosis Emphasis is placed on general principles and normal conditions, as the first aim of the course is to familiarize the students with normal physical signs As the course develops, physical signs of pathological conditions are taught and demonstrated. Demonstrations include slides and movies which are shown throughout the course to illustrate the various phases of the subject matter At the end of the course, instruction is given in the fundamentals of history taking to prepare the student for his work as clinical clerk in the third year

Section Work in Physical Diagnosis. 32 hours

Dr Mark and Assistants.

In the second semester the class is divided into small sections for practical work one afternoon week. Normal physical signs are stressed. Individual attention is given to each student regarding the application of the cardinal principles of physical diagnosis. Topographical anatomy is included, with roentgenograms and fluoroscopic visualization, in relation to the physical findings of the heart, lungs, diaphragm and digestive tract under the direction of members of the Radiology Department.

Lectures in Medicine 32 hours

Professor Durant and Assistants.

During the second semester the first of a series of lectures in Medicine that continues through the third year is given. In these lectures, Professor Durant and his Associates cover the various phases of Medicine so that by the time the students reach the fourth year they have covered the scope of a textbook in Medicine. The subjects included in the second yea are those more readily grasped by second year students disorders of nutrition and metabolism, respiratory diseases, endocrine and locomotor disorders, hematology and allergy

MEDICINE—Continued

Correlation Conferences. 16 hours

There are sixteen hours devoted to correlation conferences between the Comprehensive Medicine Group and the basic sciences—Bacteriology, Pathology and Hematology. Patients are presented and clinical problems discussed illustrating the basic science material that is currently being taught. The concept of the patient's ecology that was introduced in the first year is further elaborated upon in these hours.

THIRD YEAR

Lectures in Medicine 67 hours

Professor Durant and Assistants.

The program started in the second year is completed during a total of 67 hours of lectures by Professor Durant and Assistants on the theory and practice of medicine. The groups of topics covered include infectious diseases, the mycoses, diseases of the urinary tract, cardiology, gastroenterology, diseases due to physical and toxic agents, tropical medicine, and geriatrics.

Comprehensive Medicine (General Practice Clinic.) 21 hours

In the junior year pairs of students are assigned to a patient with chronic illness. These students review the patient's illness, visit the patient at home at frequent intervals, and aid in the analysis and management of his medical, social and family problems. The students continue to follow the patient and his family for two years.

The teaching and supervision are done jointly by the Departments of Medicine, Psychiatry and Social Service.

Lectures in Diseases of the Chest 13 hours

Dr. Cohen and Assistants.

During the first trimester Dr. R. V. Cohen and staff present a weekly clinical lecture on diseases of the chest with special reference to tuberculosis. In addition, there is clinical teaching by members of the staff for sections of the class in the chest wards of the hospital and at the Northern Division of the Philadelphia General Hospital.

Clinics in Applied Therapeutics. 33 hours

Professor Durant and Assistants.

Throughout the year there are weekly clinics in the Erny Amphitheater in the Temple University Hospital. These are devoted to the presentation and discussion of selected cases in illustration of topics covered in lectures, and to the demonstration of various medical technical procedures such as paracentesis of various body cavities, lumbar puncture, special nursing techniques, etc. There are also presented in this series five discussions of the principles and practices of dietetics. These concern the planning of diets in health and disease according to the principles of nutrition and management. The normal diet is used as the basis for the construction of these and other therapeutic diets: high protein; low fat; high carbohydrate; high caloric; low caloric-diabetic; low sodium; low purine; allergy; fluids; soft; bland; low residue.

MEDICINE—Continued

Ward Teaching and Clinical Clerkships. 175 hours

Throughout the year, students in small sections are assigned as clinical clerks to the Medical Wards of Episcopal, Albert Einstein Medical Center Northern Division, and Philadelphia General Hospitals. Here the student takes the history makes physical examination, and suggests diagnosis and treatment of assigned cases. His work is reviewed by an instructor who places particular emphasis on history taking and physical examination. Students in sections accompany teachers on their ward rounds.

Fourth Year

Medical Civics. 18 hours

Professor Durant, Assistants, and visiting lecturers.

Once a week, from October through February lectures are given on matters of collateral and practical interest to those who are about to launch on their medical careers. Emphasis is placed upon the relation of the physician to his colleagues, his patients, and his community. The subjects include such things as medical ethics, medical societies, medical cults, medical economics, duties of the physician to his community military naval, and aviation medicine as careers, graduate education, socialized medicine, Blue Shield, Blue Cross, and other forms of insurance for medical care.

Comprehensive Medicine. 16 hours

In the senior year during the medical clinic clerkship, students analyze and treat patient whose disability involves significant social, economic or psychological difficulties. There are sixteen hours of group conference and teaching carried on jointly by the Departments of Medicine, Psychiatry and Social Service.

Clinics in Medicine. 71 hours

Professors Durant, Kern, Weiss and Assistants.

Throughout the yea Professor Durant and members of his staff conduct weekly clinic in the Erny Amphitheater of Temple University Hospital. In this hour Professor Weiss holds six clinics devoting special attention to problems of psychosomatic medicine. A second weekly clinic is given by Professor Durant who discusses medical cases and by Dr Gilpin who presents neurologic problems In every instance, emphasis is laid on the individual problems as exemplified by the patient under discussion, including differential diagnosis and details of treatment. Student participation is required by having the clinical clerk in charge of the patient share in the presentation.

Clinico-Pathological Conferences. 35 hours

Professor Aegerter and Medical Staff

Once a week a clinico-pathological conference is conducted in which the clinical and pathological aspects of cases coming to necropsy are discussed. This is a joint activity of the Departments of Medicine and Pathology The clinician reviews the clinical data and diagnosis, including X-ray films, and the pathologist presents the findings at necropsy including the projection on screens of histological sections. (All necropsies held at the hospital are

MEDICINE—Continued

attended by sections of the class especially summoned and excused from other work while in attendance.)

Ward Work. 150 hours

Each student is assigned to the medical wards of the Temple University Hospital, the Philadelphia General Hospital and/or the Episcopal Hospital for a period of six weeks as clinical clerk. He takes the history, makes a physical examination and certain laboratory examinations, and suggests a diagnosis and treatment of assigned cases. His work is reviewed by an instructor and, upon occasion, is presented by the student before the section in conference. Students in sections accompany teachers on their regular ward rounds.

Out-Patient-Clinic Work. 132 hours

Small sections of the class are assigned to the medical clinics of the Temple University and Episcopal Hospitals including their special sections for applied immunology, arthritis, cardiology, diseases of the chest, endocrine disorders, gastroenterology, hematology, metabolic disorders, peripheral vascular diseases, and hypertension. In the Comprehensive Medical Clinic, the students are supervised by an internist, psychiatrist, and social worker who are in constant attendance. This clinical experience is the practical application of the knowledge gained in Comprehensive Medicine during the first three years. The student is assigned to take histories, make physical and laboratory examinations and to suggest diagnosis and treatment. He accompanies the patient upon referral to other clinics for special study. In the special clinics he also observes special diagnostic and therapeutic technics. In the chest Clinic he sees and assists in the performance of therapeutic pneumoperitoneum and pneumothorax.

Correlation Conferences. 34 hours

Under the guidance of the Medical Service, a weekly Correlation Conference lasting one hour is conducted. Subjects considered include some which notably cut across many special fields and in which representatives of several preclinical and clinical departments take part: for example, thyrotoxicosis, ulcerative colitis, and obesity. Others deal with topics not included in routine teaching but of importance to prospective interns: the use and abuse of laboratories, the procurement of autopsy permission, the physician and the dentist, the physician and the pharmacist, home versus hospital care. Eight conferences are devoted to the discussion of the early diagnosis of cancer. Each conference is conducted under the leadership of a monitor who directs the discussion by suitable predetermined questions. The last ten minutes of the hour are devoted to questions from the floor.

Course for Temple University Students At Einstein Medical Center Northern Division

Junior students at the Albert Einstein Medical Center, Northern Division, serve essentially as clinical clerks. Their duties consist of history writing and the physical examinations of patients for which adequate time is allotted. Students work in pairs; each pair being given two hours for the study of the case and one hour for its presentation to an instructor. The written history becomes an integral part of the patient's chart after approval by the student's instructor. Small sections are the rule.

MEDICINE—Continued

The class assembles twice a week for clinical conference and the presentation of patients by students to the whole group, and once for a clinical pathological conference at which the pathological specimens, usually of cases that have been studied, are reviewed in the light of the clinical diagnosis.

An attempt is made to bring each student into close contact with the patients who are assigned to him, and to have him follow from day to day the case which has been studied. If it eventuates in a surgical procedure, he acts as assistant at the operation. Students are expected to attend an autopsy of all patients who succumb and whom they have studied in the wards.

MICROBIOLOGY

Earle H. Spaulding, B.A., Ph.D.
Professor and Head of the Department of Microbiology

Morton Klein, B.S., M.S., Ph.D. — *Professor of Microbiology*

Louis Tuft, M.D., F.A.C.P. — *Clinical Professor of Medicine (Immunology)*

Edwin S. Gault, M.D., F.A.C.P. — *Professor of Pathology and Parasitology*

Theodore G. Anderson, Ph.B., Ph.D. — *Associate Professor of Microbiology and Bacteriologist to the Temple University Hospital*

Kenneth M. Schreck, B.S., M.D. — *Assistant Professor of Microbiology*

George I. Blumstein, B.A., M.D., F.A.C.P.
Assistant Professor of Medicine (Immunology)

Samuel W. Eisenberg, B.A., A.M., M.D.
Assistant Professor of Proctology (Parasitology)

Anthony J. Lamberti, B.S., M.S. — *Instructor in Microbiology*

Leonard Zubrzycki, A.B. — *Teaching Fellow in Microbiology*

Harvey Rabin, A.B. — *Teaching Fellow in Microbiology*

Ellen Emmons, B.S. — *Assistant Instructor in Microbiology*

Annarae Krouse, B.S. — *Assistant Instructor in Microbiology*

Anna Troyanosky, M.T. — *Technician in Microbiology*

Medical Microbiology

The course in medical microbiology introduces the sophomore student to the principles of immunology and the microbiologic aspects of infectious disease. Emphasis is laid upon host-parasite relationships, the nature of the various etiologic agents, the pathogenesis, epidemiology and prevention of infection, the microbiologic basis for chemotherapy and the use of the diagnostic microbiology laboratory.

A total of 240 hours are devoted to lectures, conferences, discussions, laboratory work, audio-visual aids and the preparation of a paper. Instruction begins with the fundamentals of bacteriology and of immunology. When the student has become acquainted with the subjects of mycology, virology and parasitology, his accumulated knowledge is tested by devoting the last ten hours of the formal course to the area of diagnostic microbiology, during which time representative case histories are examined.

Instruction continues during the junior and senior year by means of correlative programs with clinical departments.

MICROBIOLOGY—Continued

Microbiology Seminar

One hour a week during the second semester. Selected topics of special interest are presented by staff members, graduate students and medical students working for the M.S. degree in Microbiology.

Graduate Symposium

One hour a week during the second semester. Recent books of outstanding value are examined in detail by means of informal discussions. Open to medical students by special permission.

Parasitology 60 hours

Dr. Gault and Staff

The student is taught to recognize the most important protozoa, helminths and arthropods. At the same time the infections or infestations produced by them are systemically surveyed. This material is thoroughly integrated with methods of laboratory diagnosis by making extensive use of audio-visual aids.

Bacteriology, Immunology and Mycology 156 hours

Professor Spaulding and Staff

Following a brief study of the nature of bacteria, attention is directed toward the mechanisms by which microorganisms harm the host and the various manifestations of the host-parasite relationship. Next, by means of lectures and conferences, the major bacterial and mycotic infections are discussed in detail with emphasis upon etiology, pathogenesis and the microbiologic basis for chemotherapy.

In the first three weeks of the laboratory course the student learns the essential technical skills. From that time on, he carries out or observes the available diagnostic procedures for each major type of infection with emphasis upon evaluation and interpretation. As his knowledge increases, more and more attention is paid to the laboratory aspects of chemotherapy.

Virology 22 hours

Dr. Klein and Staff

The nature of viruses and the increasing incidence of viral infections is presented by means of lectures and conferences. Laboratory work consists of performing representative serological procedures and, by group participation, animal inoculation, chick embryo and tissue culture techniques.

NEUROLOGY

Sherman F. Gilpin, B.S., M.D.	*Clinical Professor of Neurology*
Alexander Silverstein, M.D.	*Assistant Professor of Neurology*
Seymour Solomon, M.D.	*Instructor in Neurology*

FIRST YEAR

At the close of the neuroanatomy course, a clinic is held during which the students have an opportunity to see the application of their anatomy in the clinical neurological problem.

NEUROLOGY—Continued

Third Year

During the academic year up until February 1st, an hour a week is devoted to a lecture concerning the various entities in organic neurology After February 1st, the didactic lectures continue every other week and are combined with the presentation of patients illustrating various neurological problems. The junior class is divided into three sections one going to the Episcopal Hospital one to the Albert Einstein Medical Center Northern Division, and one to the Philadelphia General Hospital. Each morning during the week, the third that is assigned to the Philadelphia General Hospital is again divided into groups, each group in turn spending four mornings each week for seven weeks on the Neurologic Wards. Patients are assigned, the students have the opportunity to take histories and do physical examinations after which they consult with an instructor The other two-thirds of the class in small sections have the opportunity to spend one morning a week at the Philadelphia General Hospital where neurological patients are examined and presented to them. The one-third of the class which is assigned to the Albert Einstein Medical Center Northern Division, is also divided into sections that meet with an instructor once a week for four weeks for the demonstration and discussion of neurological problems.

Fourth Year

During the fourth year students, as clinical clerks, are assigned patients who have been admitted to the hospital on the neurological and neurosurgical services. Students meet with a member of the neurological service and a member of the neurosurgical service for discussion of the patients. The assignment covers a period of ten days. For two weeks, sections attend the neurological and neurosurgical dispensaries where patients are assigned for study after which they are checked by the instructors. Once a week for ten weeks, a clinic is held in which neurologic problems observed on the wards at Temple University Hospital are presented.

EXPERIMENTAL NEUROLOGY

Ernest A. Spiegel, M.D. *Professor of Experimental and Applied Neurology*
Emery G. Szekely, M.D. *Research Associate in Experimental and Applied Neurology*
Marcelino Chacez, M.D. *Research Associate in Experimental Neurology*

NEUROSURGERY

Michael Scott, B.S., M.D., M.S. (Neurosurgery), F.A.C.S., F.I.C.S., *Clinical Professor of Neurosurgery and Head of the Department of Neurosurgery*

NEUROSURGERY—Continued

Henry Wycis, B.S., M.D., M.S. (Neurosurgery), F.A.C.S. *Clinical Professor of Neurosurgery*
Frederick Murtagh, Jr., M.D., M.S. (Neurosurgery) *Associate in Neurosurgery*
Paul M. Lin, M.D., M.S. (Neurosurgery) *Instructor*

Second Year

In the second year the sophomore class is divided into sections of six students and each section is given three consecutive periods of two hours at the bedside of patients. They are taught the neurological examination and introduced to diagnostic neurosurgery.

Third Year

During the third year the students are introduced to Neurosurgery by a series of thirteen consecutive lectures, one hour a week. Although the essentials of anatomy, physiology, pathology and surgical treatment of the various conditions are described, emphasis is on diagnosis of common neurosurgical conditions such as congenital lesions of the central nervous system, head and spinal cord trauma, brain and spinal cord tumors and vascular lesions of the central nervous system. The student is acquainted with spinal and cysternal punctures, myelography, encephalography, ventriculography, and arteriography.

The course is designed to prepare the student for the practical bedside work in the senior year.

Fourth Year

During this year students as clinical clerks are assigned patients who have been admitted to the Neurosurgical service. They are responsible for the history and examination of the patient. The case is then discussed with a member of the Neurosurgical Department. During this clinical clerkship the student, as part of a small ward group, meets with an instructor twice weekly for a period of two hours for two consecutive weeks. The neurological examination and bedside diagnosis are stressed.

These sections are then assigned for a period of two hours, once weekly, to the Neurosurgical Out Patient dispensary for two consecutive weeks. Here the student again examines the patient, arrives at his own diagnosis and discusses his findings and the treatment of the patient with an instructor.

During the year a clinic is given before the entire class, one hour a week for a period of ten weeks. Neurosurgical problems observed on the wards of the hospital are presented.

OBSTETRICS AND GYNECOLOGY

J Robert Willson, M D M S. (Obstetrics and Gynecology)
Professor and Head of the Department of Obstetrics and Gynecology
J Marsh Alesbury M D *Professor of Clinical Obstetrics and Gynecology*
Clayton T Beecham, B.S., M.D
Clinical Professor of Obstetrics and Gynecology
Isador Forman, M D *Clinical Professor of Obstetrics and Gynecology*
Elsie Reid Carrington, A.B., M.D M.S (Obstetrics and Gynecology)
Assistant Professor of Obstetrics and Gynecology
C. Kenneth Miller M D *Associate in Obstetrics and Gynecology*
Chester Reynolds, A.B., M.D *Associate in Obstetrics and Gynecology*
Lewis Karl Hoberman, M D *Associate in Obstetrics and Gynecology*
James P Quindlen, M A., M.D *Associate in Obstetrics and Gynecology*
John P Emich, B.S., M.D M.S. (Obstetrics and Gynecology)
Associate in Obstetrics and Gynecology
Frank S. Deming, B D M.D M.S (Obstetrics and Gynecology)
Associate in Obstetrics and Gynecology
Heath Denton Bumgardner B.S M D M S. (Obstetrics and Gynecology)
Associate in Obstetrics and Gynecology
Hugh Hayford, M.D *Instructor in Obstetrics and Gynecology*
Michael J Daly M D *Instructor in Obstetrics and Gynecology*
Terry T Hayashi, M.D *Instructor in Obstetrics and Gynecology*
Alfred L. Kalodner M D *Instructor in Obstetrics and Gynecology*

Sophomore Year

During the second semester of the second year a series of weekly lectures intended to introduce the students to the third and fourth courses is given. The physical and emotional development of the female and menstruation and its disorders are discussed.

Junior Year

Two hours of lectures and conferences are given each week throughout the junior year Certain fundamentals covered in the introductory lectures are reviewed and normal and abnormal labor and the puerperium are discussed in detail. Lectures in gynecology completely cover normal pelvic physiology and disease processes. Whenever possible, illustrative patients are demonstrated or case histories presented.

Throughout the year small groups of students are assigned to the wards and the clinics for practical work in obstetric and gynecologic diagnosis, the management of labor delivery and postpartum care. Under supervision of the staff members, the student learns to do both pelvic and abdominal examinations, pelvic measurements on pregnant patients, and to apply his knowledge of prenatal care.

OBSTETRICS AND GYNECOLOGY—Continued

SENIOR YEAR

The work during the senior year is entirely practical, with the student dividing his time between the outpatient department and the obstetric and gynecologic wards. In the dispensary he participates in the examination and treatment of gynecologic patients, taking histories, making physical and pelvic examinations and planning treatment under the guidance of one of the staff physicians.

On the gynecologic wards, he aids the resident staff in the care of hospitalized patients taking histories, making physical and pelvic examinations, and assisting at operations.

The practical work in obstetrics is given entirely in the hospital. Care of the patient during labor and after delivery is stressed, and in addition the clinical clerk is taught the technique of delivery by delivering patients himself under supervision and assisting at the delivery of more complicated cases. Daily ward rounds or conferences are held with the ward chief the resident staff and clinical clerks on each service. Weekly clinical conferences for the entire class, in which a clinical clerk presents one of his own cases for discussion, complete the course in the fourth year

OPHTHALMOLOGY

Glen Gregory Gibson, M D
Professor and Head of the Department of Ophthalmology
John McGavic, B S M D M.S. *Professor of Ophthalmology*
Edwin F Tait, B A A M Ph D M.D
Associate Professor of Ophthalmology
Lewis R. Wolf, B S M.D M.S. (Ophthalmology) F.A C.S
Assistant Professor of Ophthalmology
Robison D Harley B S., M D Ph D F.A.C.S
Assistant Professor of Ophthalmology
Louis F Hinman, B S M D M S. (Ophthalmology)
Associate in Ophthalmology
Robert J Beitel, Jr A.B., Ph D M.D
Assistant Instructor in Ophthalmology
Paul H. Pettit, A.B., M D *Assistant Instructor in Ophthalmology*
Frederick P Sutliff, B S., M D *Assistant Instructor in Ophthalmology*
Edwin C. Tait, M D M S (Ophthalmology)
Assistant Instructor in Ophthalmology
Edward H. Hanhausen, B.S M.D *Assistant Instructor in Ophthalmology*
Arthur R. Vaughn, Jr M.D *Assistant Instructor in Ophthalmology*

OPHTHALMOLOGY—Continued

THIRD YEAR

A series of fourteen one hour lectures is given. The purpose of these lectures is to teach the students that ophthalmology a so-called minor course, is in reality a very major one. This is true since the eyes play such a major role in the everyday life of every person. The importance of the eye in health and in local and systemic disease is emphasized. The students are instructed in the fact that ophthalmology is one of the most interesting of medical subjects with important connections with almost all the other specialties. The exact and precise nature of ophthalmology makes it one of the most fascinating of the medical subjects. The use of instruments in the diagnosis of local, neurological, medical and surgical diseases is discussed.

FOURTH YEAR

The practical and technical details of ophthalmic practice are presented to the student in demonstrations on the clinic patients, and by means of photographs and lantern slides.

ORTHOPEDICS

John R Moore, A B M D F A C S, D Sc,
Professor and Head of the Department of Orthopedics
Arthur F Sesler M D M S (Orthopedics) *Assistant Professor of Orthopedics*
John W Lachman, A B M D *Assistant Professor of Orthopedics*
Howard H Steel, A.B., M D *Associate in Orthopedics*

THIRD YEAR

The first half of the year is devoted to fractures. Lectures are illustrated by slides, motion pictures, and case demonstrations. Diagnosis, treatment, and the after-care of fractures are particularly emphasized. The traumatology of bones, muscles, tendons, bursae, and fascia is brought to the attention of the student.

The second half of the year is devoted to Orthopedic Surgery Lectures are illustrated by lantern slides and case demonstrations with emphasis upon diagnosis, treatment, and the general management of orthopedic conditions. Clinical material is drawn from the wards and the outpatient departments. Diseases and injuries of the bones, joints, muscles, tendons, and bursae are observed.

OTORHINOLOGY

David Myers, M D F.A.C.S F.I.C.S
Professor and Head of the Department of Otorhinology
Charles Q DeLuca, M D F.A C S *Clinical Professor of Otorhinology*

OTORHINOLOGY—Continued

A. Neil Lemon, M.D. F.A.C.S.	*Clinical Professor of Otorhinology*
Bernard J. Ronis, M.D. F.A.C.S., F.I.C.S.	*Clinical Professor of Otorhinology*
Maurice Alexander, M.D. F.I.C.S.	*Assistant Professor of Otorhinology*
Edward Bloom, M.D. F.I.C.S.	*Assistant Professor of Otorhinology*
Barech Rachlis, M.D. F.I.C.S.	*Assistant Professor of Otorhinology*
Philip Rosenberg, Ph.D.	*Assistant Professor of Audiology in Department of Otorhinology. Director of Audiology Section*
Maurice Saltzman, M.D.	*Assistant Professor of Otorhinology*
Irving Arnold Rush, M.D. A.B.	*Associate in Otorhinology*
Harold Wilf, M.D. B.A.	*Associate in Otorhinology*
Frank L. Follweiler, B.S., M.S., Ph.D. M.D.	*Instructor in Otorhinology*
Lewis Merklin, M.D.	*Instructor in Otorhinology*
Marvin Radoff, M.D.	*Instructor in Otorhinology*
John F. Shaffer, B.S. M.D.	*Instructor in Otorhinology*
Martin Spector, B.S., M.D.	*Instructor in Otorhinology*
Harry Cherken, M.D.	*Assistant Instructor in Otorhinology*
Morris E. Ettenger, B.S. M.D.	*Assistant Instructor in Otorhinology*
Samuel Waldrop, M.D.	*Assistant Instructor in Otorhinology*

Freshman Year

In the Freshman year several clinical conferences are held to correlate the findings in anatomy and physiology with various diseases of the ear and nose. This is the student's introduction to the problems of Ear, Nose and Throat.

Sophomore Year

A one hour demonstration in the proper use of the head-mirror, nasal speculum, and otoscope is given in conjunction with physical diagnosis to the Sophomore class.

Junior Year

Instruction in the diseases of the Ear, Nose and Throat is given during the Junior year. A didactic course is given, meeting one hour a week for 12 weeks. The various problems of diseases of the Ear, Nose and Throat are discussed. The lectures are supplemented by charts, diagrams and anatomical specimens, slides and motion pictures. Illustrations of various hearing tests are given by means of tape recordings. In addition, various types of hearing losses are described by means of audiovisual techniques. Two special lectures are given for the Department of Public Health and Preventive Medicine on the problems of noise in industry and the prevention of deafness in infants and children.

OTORHINOLOGY—Continued

Senior Year

In the Senior year the student works in the Out-Patient Clinics. The class is divided into small sections. The student actually treats the patient and learns to use the various instruments and treatment techniques which are described in the lectures. In addition, while in the clinic, one instruction session is spent with the Department of Audiology in learning the techniques of hearing testing, rehabilitation and hearing aid fitting. There is another session spent in the Vertigo Clinic where the techniques of testing and performing the various vestibular tests are demonstrated. A special department of Audiology is part of our Ear Nose and Throat Department, and the student has ample opportunity of observing the work in this section. Here he sees the tests of hearing carried out and the rehabilitation of the deafened patient started. The student will learn about hearing aids and how they are fitted. There are several ward walks in which we show the senior student the various patients in his pre and post operative surgical state while in the hospital. During this year the student also has the opportunity of assisting or observing the surgery performed by the Department of Ear Nose and Throat.

Clinics

Patients with differential diagnostic problems are demonstrated. Past and present reasoning pertaining to their condition and comparison with similar cases are made to highlight the points covered. Students treat patients in the clinic under supervision.

Ward Walks

Students are divided into small sections—two or four hours each week for two weeks. The students are carefully instructed in the principles and practice of history taking. Each student is required to obtain a complete history of the patient, treat him, watch his progress, and follow him to the operating room if surgery is performed.

Surgical Clinics

The students are divided into small sections witnessing the performances of operations. Indications and reasons for each step are explained in detail. The technique and the consideration which lead to the development and the adaptation of the procedure are explained. General conferences with discussions of general problems take place with student participation.

PATHOLOGY

Ernest Aegerter A.B., B.S. M.D. F.C.A.P.	*Professor and Head of the Department of Pathology*
Edwin S. Gault, M.D. F.C.A.P.	*Professor of Pathology and Micro-Biology*
Augustin R. Peale, A.B. M.D. M.S. (Pathology)	*Professor of Pathology*
James B. Arey, B.S. M.B., M.D. M.S., Ph.D.	*Professor of Pathology*
Harvey F. Watts, M.D.	*Assistant Professor of Pathology*
Elizabeth V. Laurisch, A.B. M.D. L.M.C.C., M.S.C. (Pathology) Ph.D. (Pathology)	*Assistant Professor of Pathology*
Henry Brody B.S., M.D.	*Assistant Professor of Pathology*
Lester Rauer A.B. M.D.	*Assistant Professor of Pathology*
Franklin K. Fite, A.B. A.M. (Chemistry) M.D.	*Assistant Professor of Pathology*
William N. Campbell, M.D.	*Associate in Pathology*
Irving Young, A.B. M.D.	*Instructor in Pathology*
Elizabeth J. Holmes, A.B. M.D.	*Assistant Instructor in Pathology*
Walter M. Levy M.D.	*Assistant Instructor in Pathology*
Ernest M. Tasoni, B.S. M.D.	*Assistant Instructor in Pathology*
Athanasios Vougioukli, M.D.	*Assistant Instructor in Pathology*

SECOND YEAR

This course is designed to teach the fundamentals of general pathology to the pre-clinical student. Emphasis is placed upon gross morbid anatomy and altered physiology. Microscopy is used principally to illustrate structural change with no attempt to make the student a cytologic diagnostician. Case studies are based on autopsy findings. A museum of approximately 1000 mounted gross pathologic specimens and a manual with descriptions of each specimen and pertinent clinical data are used. A slide set of 450 representative slides and a microscope is issued each student. A course in X-ray Pathology Correlation is integrated with the course. The courses in Pathology and Micro-Biology are taught simultaneously and closely integrated. Also a weekly session in clinical medicine is integrated with the work in Pathology. The course is taught in the first semester of the second year. The formal lectures are given to the class as a whole. The remainder of the course is given to sections of fifteen or more students. The course requires eighteen weeks of four hours a day, five days a week.

Lectures	86 hours
Gross Morbid Anatomy	
Museum	48 hours
Autopsy Room	48 hours

PATHOLOGY—Continued

Microscopic Morbid Anatomy	
Demonstrations	48 hours
Laboratory Study	25 hours
Discussion Sections	
Round Table	48 hours
Case Discussions	32 hours
Quiz	16 hours

THIRD YEAR

During this year each student actually participates in several autopsies at the various associated hospitals.

Autopsy Practice	22 hours

FOURTH YEAR

During the entire year the students meet once weekly for a clinico-pathological conference. Protocols of completely studied cases of interest are given out in advance and the student is asked to make his diagnosis. During the hour a member of the Department of Medicine discusses the reasons for his own diagnosis, and a member of the Department of Pathology reviews the actual findings. By this method, it is hoped that the student will have an opportunity not only to apply his knowledge of pathology to practical cases, but to witness how an experienced diagnostician approaches and solves difficult medical problems.

Clinico-Pathological Conference	35 hours

PEDIATRICS

St. Christopher's Hospital for Children is the Pediatric Department for the Temple University School of Medicine

Waldo E. Nelson, A.B., M.D., D.Sc., F.A.A.P. — *Professor and Head, Department of Pediatrics*
Theo. S. Wilder, A.B., B.S., M.D., F.A.A.P. — *Clinical Professor of Pediatrics*
John B. Bartram, B.S., M.D., F.A.A.P. — *Associate Professor of Pediatrics*
Robert H. High, A.B., M.S. (Pediat.), M.D., F.A.A.P. — *Associate Professor of Pediatrics*
Victor C. Vaughan, III, A.B., M.D., F.A.A.P. — *Associate Professor of Pediatrics*
James B. Bowman, M.D., F.A.A.P. — *Assistant Professor of Pediatrics*
Henry W. Baird, III, B.S., M.D. — *Assistant Professor of Pediatrics*
Nancy N. Huang, B.S., M.D. — *Assistant Professor of Pediatrics*
Norman Kendall, M.D., M.S. (Pediat.), F.A.A.P. — *Assistant Professor of Pediatrics*

PEDIATRICS—Continued

Arthur E. McElfresh, M.D., F.A.A.P.	*Assistant Professor of Pediatrics*
Richard Olmsted, A.B., M.D.	*Assistant Professor of Pediatrics*
Helen S. Reardon, M.D., F.A.A.P.	*Assistant Professor of Pediatrics*
Rudolph Roddy, A.B., M.D., M.P.H., F.A.A.P.	*Assistant Professor of Pediatrics*
J. Judd Shields, B.S., M.D., F.A.A.P.	*Assistant Professor of Pediatrics*
C. Robert E. Wells, B.S., M.D., M.S. (Pediat.), F.A.A.P.	*Assistant Professor of Pediatrics*
Alfred C. LaBoccetta, M.D., D.P.H.	*Lecturer in Pediatrics*
William P. Barba, II, A.B., M.D.	*Associate in Pediatrics*
Angelo M. DiGeorge, A.B., M.S. (Pediat.), M.D.	*Associate in Pediatrics*
Frank P. Ermilio, B.S., M.D., M.S. (Pediat.), F.A.A.P.	*Associate in Pediatrics*
Joseph Grossman, M.D.	*Associate in Pediatrics*
Frederick Reardon, Jr., A.B., M.D.	*Associate in Pediatrics*
Milton Sarshik, A.B., M.D., F.A.A.P.	*Associate in Pediatrics*
Robert M. Shelly, A.B., M.D.	*Associate in Pediatrics*
David S. Smith, A.B., M.D.	*Associate in Pediatrics*
Charles R. Barr, M.D., M.P.H., F.A.A.P.	*Instructor in Pediatrics*
Sydney Borow, A.B., M.D.	*Instructor in Pediatrics*
Domenico Cucinotta, M.D.	*Instructor in Pediatrics*
Edward Fihmyer, Jr., M.D.	*Instructor in Pediatrics*
Carl S. Fibanger, B.S., M.S., M.D.	*Instructor in Pediatrics*
Joseph M. Garfunkel, M.D., M.S. (Pediat.)	*Instructor in Pediatrics*
Bernard J. Houston, B.S., M.D., F.A.A.P.	*Instructor in Pediatrics*
Seymour Leda, M.D.	*Instructor in Pediatrics*
Joseph Levitsky, M.D.	*Instructor in Pediatrics*
Joseph Luongo, M.D.	*Instructor in Pediatrics*
Harold P. Meyer, A.B., M.D.	*Instructor in Pediatrics*
Francis L. Richardson, A.B., M.D., F.A.A.P.	*Instructor in Pediatrics*
Joseph Ziegler, A.B., M.D.	*Instructor in Pediatrics*
Robert Dean Coddington, B.S., M.D.	*Assistant Instructor in Pediatrics*
Rosemarie T. Carcillo, B.S., M.D.	*Assistant Instructor in Pediatrics*
Albert J. Flacco, A.B., M.D.	*Assistant Instructor in Pediatrics*
Gordon Kagen, M.D., F.A.A.P.	*Assistant Instructor in Pediatrics*
Howard W. Hansell, A.B., M.D.	*Assistant Instructor in Pediatrics*
Stanley J. Rogel, M.D.	*Assistant Instructor in Pediatrics*
Stephen H. Wolf, B.S., M.D.	*Assistant Instructor in Pediatrics*
James B. Arey, B.S., M.B., M.S., M.D., Ph.D.	*Professor of Pathology (Pediatrics)*

Albert Einstein Medical Center—Northern Division

Rudolph Roddy, A.B., M.D., M.P.H., F.A.A.P.	*Assistant Professor of Pediatrics*
Harry Lowenberg, M.D., F.A.C.P.	*Associate in Pediatrics*
Sidney Borowsky, M.D.	*Instructor in Pediatrics*
Harold P. Meyer, A.B., M.D.	*Instructor in Pediatrics*

PEDIATRICS—Continued

Philadelphia General Hospital—Northern Division

Theodore Melnick, M.D., F.A.C.P. — *Assistant Professor of Pediatrics*

St. Christopher's Hospital for Children

Medical Specialties

Melville A. Goldsmith	*Attending Cardiologist*
Robert E. Wells	*Attending Cardiologist*
Karl E. Paschkis	*Attending Endocrinologist*
Angelo M. DiGeorge	*Associate Attending Endocrinologist*
Henry H. Perlman	*Attending Dermatologist*
Adolph Bleier	*Assistant Attending Dermatologist*
Henry W. Baird, III	*Associate Attending Neurologist*
Calvin F. Settlage	*Attending Psychiatrist*
Walter F. Char	*Associate Attending Psychiatrist*
Theodore B. Cohen	*Assistant Attending Psychiatrist*
Margaret Dealy	*Assistant Attending Psychiatrist*
Kenneth Gordon	*Assistant Attending Psychiatrist*
George Kocha	*Assistant Attending Psychiatrist*
George Russell	*Assistant Attending Psychiatrist*
Samuel Granick, Ph.D.	*Psychologist*
Ella Aldel	*Psychologist*
William Mark	*Psychologist*
Mary Marture	*Psychologist*
John A. Kirkpatrick, Jr.	*Attending Roentgenologist*

Surgery and Surgical Specialties

W. Emory Burnett	*Acting Attending Surgeon*
Samuel L. Creason	*Attending Surgeon*
Thomas C. McAuliffe	*Associate Attending Surgeon*
George P. Pilling, IV	*Associate Attending Surgeon*
George P. Rosemond	*Associate Attending Surgeon*
John H. Wolf	*Associate Attending Surgeon*
R. Robert Tyson	*Assistant Attending Surgeon*
Hans May	*Attending Plastic Surgeon*
Richard S. Oakey, J.	*Attending Plastic Surgeon*
Robert P. Glover	*Attending Thoracic Surgeon*
Michael Scott	*Attending Neurosurgeon*
Henry T. Wycis	*Attending Neurosurgeon*
Frederick Murtagh, Jr.	*Associate Attending Neurosurgeon*
Kyril Conger	*Attending Urologist*
Trudeau Horrax	*Assistant Attending Urologist*
Lester Karafin	*Assistant Attending Urologist*
Jacob B. Friedmann	*Attending Anesthesiologist*

PEDIATRICS—Continued

Emily Van Loon	*Attending Bronchoesophagologist*
Glen G Gibson	*Acting Attending Ophthalmologist*
Robison D Harley	*Attending Ophthalmologist*
Frederick P Sutliff	*Associate Attending Ophthalmologist*
Paul H Pettit	*Assistant Attending Ophthalmologist*
Elsie R. Carrington	*Attending Gynecologist*
John Royal Moore	*Attending Orthopedist*
Arthur Seifer	*Associate Attending Orthopedist*
John Lachman	*Associate Attending Orthopedist*
Howard H Steel	*Associate Attending Orthopedist*
Charles Q DeLuca	*Attending Otolaryngologist*
A Neil Lemon	*Attending Otolaryngologist*
David Myers	*Attending Otolaryngologist*
Milton Auslander	*Associate Attending Otolaryngologist*
Jesse Beeghley	*Associate Attending Otolaryngologist*
Carl Stamm	*Associate Attending Otolaryngologist*
Martin Spector	*Assistant Attending Otolaryngologist*
Harold Wolf	*Assistant Attending Otolaryngologist*
Ernest F Rickert	*Attending Dentist*
Robert H Hedges	*Attending Orthodontist*
Sumner Pallardy	*Attending Prosthodontist*
Blanco E Beatty	*Assistant Attending Dentist*
William Brem	*Assistant Attending Dentist*
Augustine J Chialastri	*Assistant Attending Dentist*
Eugene Czarnecki	*Assistant Attending Dentist*
John McKenna	*Assistant Attending Dentist*
Edward P McKindon	*Assistant Attending Dentist*
Robert L. Moore	*Assistant Attending Dentist*
George Ries, Prosthedontist	*Assistant Attending Dentist*

Non-Medical Professional Staff—St Christopher's Hospital for Children

Milton Brutten, A.B. Ph.D	*Audiologist*
Murray Halfond, A.B. M.A., Ph.D	*Speech Pathologist*
Agnete Fenger R.N. B.S.	*Director of Nursing*
Helen Desmone, R.N. B.S.	*Instructor in Nursing*
Dorothy Nentwig, R.N. B.S., M.S.	*Instructor in Nursing*
Lillian W Lober A.B.	*Director of Social Service*
Ethel Harrison, A.B. M.A	*Social Worker*
Mary Louise Baumann, B.S	*Research Chemistry Technician*
Freda Lebengood	*Tissue Technician*

PEDIATRICS—Continued

SOPHOMORE YEAR

Sixteen hours in the second semester are devoted to an approach to pediatrics through an understanding of the anatomic and physiologic patterns of growth and development of the body as a whole and of its various systems, with a correlation of the manner in which they influence diagnostic appraisal of the well and sick child, preventive practices for the well child, and therapeutic procedures for the sick child.

In addition to the lectures, two half days are devoted to physical diagnosis, at which time the findings in infants and small children are compared with those observed in older children and adults.

JUNIOR YEAR

Lectures and demonstrations are designed to prepare the student for clinical work in Pediatrics during the senior and interne years. Included are growth and development through infancy and childhood, medical aspects of the care of the well infant and child, infant feeding diseases of the newborn infant, older infant, and child, and psychologic and psychiatric disturbances.

Such lectures and demonstrations are conducted twice weekly throughout the entire school year

Students in small sections have practical clinical work in the wards and clinics of one of several hospitals for one half of each day Monday through Friday for approximately one-half of a trimester Emphasis is placed upon physical examination, diagnostic appraisal, and the significance of the illness and hospitalization to the child and his family

SENIOR YEAR

Clinical Clerkships

One-half of a trimester is spent on the hospital wards and in the out-patient dispensaries. The students are divided into subsections for clinical assignments in the hospital wards and the out-patient dispensaries of St. Christopher's Hospital for Children.

Students are assigned in rotation for night and week-end service.

Patients on the ward and in the out-patient dispensary are assigned to *individual students who are responsible for obtaining* clinical histories and performing physical examinations. The cases are reviewed individually and in sections with the students.

The section assigned to the hospital ward also has demonstrations and practical experience in the more common mechanical procedures.

PEDIATRICS—Continued

Special assignments are made to various specialty clinics. In addition, students observe patients with contagious diseases at the Northern Division of the Philadelphia General Hospital.

Students are encouraged to observe and examine newborn infants in the hospital nursery during their assignment to the Obstetric Division.

Each student is required to prepare a paper on some pediatric subject of his own choosing.

Conferences

Schedules for the special conferences for each trimester will be presented to each student. These include general clinical, newborn, x-ray, pathology, surgery, psychiatry, and medical social service conferences. Students assigned to Pediatrics are required to attend these sessions, and others who have no conflicting assignments are invited.

Amphitheatre Clinic

One hour a week for the entire senior class.

PHARMACOLOGY

Morton J. Oppenheimer, A.B., M.S., M.D.
Professor and Acting Head of the Department of Pharmacology

Roger W. Sevy, M.S., Ph.D., M.D.	*Professor of Pharmacology*
Dean A. Collins, B.S., M.A., Ph.D., M.D.	*Research Professor of Pharmacology*
Sydney Ellis, B.S., M.A., Ph.D.	*Associate Professor of Pharmacology*
Carmen T. Bello, B.S., M.D., M.S. (Medicine)	*Assistant Professor of Pharmacology*
Carl Mayo, Ph.G., B.S., M.S. (Pharmacy)	*Associate in Pharmacology*
Charles A. Papacostas, B.S., A.M., Ph.D.	*Instructor in Pharmacology*
Richard G. Johnson, B.S., M.D.	*Instructor in Pharmacology*
Karl H. Beyer, B.S., Ph.M., Ph.D., M.D.	*Lecturer in Pharmacology*
Vernon Vernier, B.S., M.D.	*Lecturer in Pharmacology*
Concetta D. Harakal, A.B., M.S.	*Assistant Instructor in Pharmacology*

The course in Pharmacology is given during the second semester of the sophomore year. The pharmacologic effects, mechanisms and sites of action, toxicities and other valuable information concerning the important drugs used in modern medicine are considered. The action and mode of action are related to the clinical use of the drug. A series of therapeutic clinics is given in order to show the student how the agents they have studied are used in patients with various pathologic conditions. Six hours a week are devoted to lectures, conferences and clinics.

PHARMACOLOGY—Continued

The laboratory is designed to illustrate and emphasize current lecture material. Six hours a week are devoted to the laboratory exercises. In carefully supervised experiments and demonstrations, the pharmacologic actions of drugs are observed in animals and occasionally in man. A demonstration on anesthetic agents is given by the Department of Anesthesiology. About one sixth of the laboratory time is devoted to medical pharmacy including conferences, writing of prescriptions, use of reference books, and demonstrations of commercial forms of drugs.

One of the major aims of Pharmacology is to illustrate the importance of rational therapeutics to the physician and to try to give the student a basis for an intelligent use of drugs and to help him to get that store of understanding and information which allows him to make sound clinical decisions. Pharmacology helps to provide a basis and useful framework for later clinical courses. It intends to impart to the student an adequate knowledge of the principles and concepts of Pharmacology and to teach the student how to deal with unforeseen situations, *i. e.*, to teach the student to think. Pharmacology borrows freely from both pre-clinical and clinical subjects in order to illustrate the principles and applications of drug therapy. It stresses the principles rather than the details of therapeutics.

PHYSIOLOGICAL CHEMISTRY

Robert H. Hamilton, M.A., Ph.D., M.D.
Professor and Head of the Department of Physiological Chemistry
Howard W. Robinson, B.S., M.S., Ph.D. *Professor of Physiological Chemistry*
Mona Spiegel Adolf, M.D. *Professor of Colloid Chemistry*
Joseph H. Boutwell, B.S., M.S., Ph.D., M.D.
Associate Professor of Physiological Chemistry
Robert C. Baldridge, B.S., M.S., Ph.D.
Associate Professor of Physiological Chemistry
Jonathan H. Cilley, B.S., Ph.D. *Assistant Professor of Physiological Chemistry*

This course is taught in the second semester of the first year. Lectures, conferences, and quizzes occupy seven hours a week, while laboratory experiments, instruction, and conferences take nine hours a week.

Lectures

During the first portion of the course, lectures deal with the chemistry, digestion, absorption, and normal metabolism of carbohydrates, lipids, proteins, and other food and tissue constituents, together with such concepts in physical chemistry as may be neces-

PHYSIOLOGICAL CHEMISTRY—Continued

sary for the proper appreciation of the metabolic phenomena encountered. The later portion of the course covers the biochemical relationships and concepts that are necessary for understanding normal metabolic processes, and for evaluating and treating pathological processes and disturbances in the metabolic balance of the body. The chemical principles upon which the science of nutrition is based are also considered.

Laboratory Course

The laboratory course is designed to enable the student to carry out chemical tests and procedures used in studying normal and abnormal metabolic reactions and conditions. An effort is made to familiarize him with special techniques and analytical procedures that are employed in hospital laboratories and in investigative work in modern medicine, and to acquaint him with the interpretation of the results of such procedures.

Clinical Conferences

In addition to giving the course of study outlined above, the Department of Physiological Chemistry in cooperation with clinical departments, participates in the presentation of clinical conferences. These conferences are planned to illustrate to the student the application of his training in physiological chemistry to problems of diagnosis of disease and of treatment of the patient.

Graduate Courses

Certain graduate courses in specialized branches of the field are given in connection with the graduate study program outlined elsewhere in this Bulletin. These courses are designed to meet the needs of students working toward the Master of Science and the Doctor of Philosophy degrees.

PHYSIOLOGY

M. J. Oppenheimer, A.B., M.S. (Ed.), M.D. — *Professor and Head of the Department of Physiology*

Esther M. Greisheimer, B.S., M.A., Ph.D., M.D. — *Emeritus Professor of Physiology*

E. A. Ohler, Ph.D. — *Associate Professor of Physiology*

Jerome M. Waldron, M.D. — *Associate Professor of Physiology*

John D. Evans, Ph.D. — *Associate Professor of Physiology*

Joan H. Gault, M.S. (Med.), M.D. — *Associate Professor of Physiology*

Mary P. Wiedeman, Ph.D. — *Instructor in Physiology*

Peter R. Lynch, A.B., M.S. (Physiology) — *Instructor in Physiology*

PHYSIOLOGY—Continued

The course in Physiology is offered during the second semester of the freshman year. The subjects covered include blood, tissue fluid, lymph, heart and circulation, special senses, and the nervous system. During the second part of the course, consideration is given to respiration, muscular exercise, water balance and kidney, temperature regulation, gastrointestinal tract, and internal secretions.

Each section of the course is followed by a conference on the subject matter covered, and the laboratory course is kept in close correlation with the didactic material discussed. Frequently at the close of the daily laboratory periods, both instructors and students participate in discussions concerning the experiments just completed from the standpoint of classical results, and explanations of biological variations from the average.

The students perform a large majority of the experiments. However, there are facilities available to small groups for demonstration of the procedures that are technically more difficult.

Within the department itself an extensive research plan is in progress in anesthesia, blood, cardiovascular physiology and unsaturated fatty acids. Students are kept abreast of recent progress. Extensive use is made in student teaching of equipment and chronic animals that have been prepared for these studies.

Physiology deals primarily with the function of the major organ systems of the body.[1] The mechanisms included for study in the physiology course are expected to be useful in the study of the sick patient. They will prepare the student to acquire habits of careful observation and recording. He will learn to analyze phenomena into physiological mechanisms in preparation for analyzing signs and symptoms in the establishment of a reasoned diagnosis. In order to think physiologically the student will be provided with certain basic quantitative information or normal values which will serve as a beginning for the store of information a well-trained clinician must have. Reading of clinical and basic science publications will be encouraged in selected circumstances for encouraging interest and making use of the large amount of physiological material which exists in these publications. It is thus the purpose of this department to take the mature student with a broad background and manifest integrity[2] and help make him into the respected and accomplished physician of the future.

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[1] Comroe, J. Chairman, Teaching of Physiology, Biochemistry, Pharmacology. Report of First Teaching Institute, Association of American Medical Colleges, Atlantic City, N. J., Oct. 19-21, 1953. Published by Journal of American Medical Colleges, 185 N. Wabash Ave., Chicago 1, Illinois.

[2] Funkenstein, D. H., Journal of Medical Education, 30 #1 (Feb.) 1955.

PHYSIOLOGICAL CHEMISTRY—Continued

sary for the proper appreciation of the metabolic phenomena encountered. The later portion of the course covers the biochemical relationships and concepts that are necessary for understanding normal metabolic processes, and for evaluating and treating pathological processes and disturbances in the metabolic balance of the body. The chemical principles upon which the science of nutrition is based are also considered.

Laboratory Course

The laboratory course is designed to enable the student to carry out chemical tests and procedures used in studying normal and abnormal metabolic reactions and conditions. An effort is made to familiarize him with special techniques and analytical procedures that are employed in hospital laboratories and in investigative work in modern medicine, and to acquaint him with the interpretation of the results of such procedures.

Clinical Conferences

In addition to giving the course of study outlined above, the Department of Physiological Chemistry, in cooperation with clinical departments, participates in the presentation of clinical conferences. These conferences are planned to illustrate to the student the application of his training in physiological chemistry to problems of diagnosis of disease and of treatment of the patient.

Graduate Courses

Certain graduate courses in specialized branches of the field are given in connection with the graduate study program outlined elsewhere in this Bulletin. These courses are designed to meet the needs of students working toward the Master of Science and the Doctor of Philosophy degrees.

PHYSIOLOGY

M. J. Oppenheimer, A.B., M.S. (Ed.), M.D. — *Professor and Head of the Department of Physiology*

Esther M. Greisheimer, B.S., M.A., Ph.D., M.D. — *Emeritus Professor of Physiology*

E. A. Ohler, Ph.D. — *Associate Professor of Physiology*

Jerome M. Waldron, M.D. — *Associate Professor of Physiology*

John D. Evans, Ph.D. — *Associate Professor of Physiology*

Joan H. Gault, M.S. (Med.), M.D. — *Associate Professor of Physiology*

Mary P. Wiedeman, Ph.D. — *Instructor in Physiology*

Peter R. Lynch, A.B., M.S. (Physiology) — *Instructor in Physiology*

PREVENTIVE MEDICINE AND PUBLIC HEALTH—*Continued*

SECOND YEAR

Clinics on Correlative and Preventive Medicine, *Dr Kelmer*	17 hours
Lectures on Communicable Disease Control, Epidemiology and Environmental Sanitation, *Dr Kelmer*	7 hours
Lectures on Industrial Hygiene and Diseases of Occupation, *Dr Kelmer*	6 hours
Lectures on Dentistry in Relation to Medicine and Preventive Medicine, *Drs. Cameron, Clifton, Hodges, Kelmer Ricert and Rothner*	7 hours
Conferences and Lectures on the Communicable and Public Health Aspects of Bacterial, Parasitologic, Spirochetal, Rickettsial and Viral Diseases. *Drs. Anderson, Gault, Klein and Spaulding*	20 hours
Lectures on Public Health Administration. *Dr Hanlon*	16 hours

THIRD YEAR

Lectures on the Control of Communicable Diseases in Man and Health Promotion. *Dr Rogers*	10 hours
Conferences and Lectures on the Control of the Communicable Diseases of Childhood, Child Health Promotion, and School Health Service. *Drs Bartram and Nelson*	16 hours
Lectures on the Preventive Aspects of Periodic Health Examinations. *Drs. Padis and Roxby*	2 hours
Lecture on the Preventive Aspects of Life Insurance Examinations. *Dr Samuel R. Moore*	1 hour
Lecture on Functions of the Coroner in Relation to Public Health. *Dr Glasser*	1 hour
Lectures on the Preventive Aspects of Psychiatric Syndromes. *Dr English*	2 hours
Lectures on the Preventive Aspects of Cancer *Dr Blady*	2 hours
Lecture on the Preventive Aspects of Obstetrical Complications *Dr Willson*	1 hour
Lectures on Maternal Hygiene and Section Work in the Prenatal Clinic. *Dr Willson*	6 hours
Lecture on the Preventive Aspects of Orthopedic Diseases *Dr John R. Moore*	1 hour
Lectures on the Preventive Aspects of Industrial Diseases. *Dr Khermich*	4 hours
Lectures on the Conservation of Vision and the Prevention of Blindness. *Dr Tait*	2 hours
Lectures on the Conservation of Hearing and the Prevention of Deafness. *Dr Myers*	2 hours

FOURTH YEAR

Conferences on Public Health Practice. *Dr Strieb*	20 hours
Lectures on Preventive Medicine. *Drs Doane, Ginsburg, Kern Kelmer Rogers and Shuman*	7 hours

PREVENTIVE MEDICINE AND PUBLIC HEALTH—Continued

Lectures on Legal Medicine. *Mr. Fenkbred and Drs. Hamilton and Kolmer* 9 hours

The course of instruction embraces 31 hours in the first year 73 hours in the second year 54 hours in the third year and 36 hours in the fourth year totalling 194 hours. These are exclusive of additional hour devoted to community health surveys, conferences at Philadelphia Health Center No. 8 and an elective course of instruction for the senior class at the Department of Health of Lower Merion Township

Institute of Preventive Medicine and Public Health

In December 1949 the building, equipment and endowment funds of the Research Institute of Cutaneous Medicine, founded by Dr Jay Frank Schamberg (deceased) Dr George W Raiziss (deceased) and Dr John A Kolmer was amalgamated with the School of Medicine as the Institute of Public Health and Preventive Medicine of Temple University The endowment is solely for the support of medical research including research in public health and preventive medicine

PROCTOLOGY

Harry E Bacon, B S M D Sc D LL D F.A.C.S., F.I.C.S. (Hon.) F A P S., F.R.S.M. (Hon) F P.C.J (Hon) F J C S (Hon.) F.B C S (Hon.) *Professor and Head of the Department of Proctology*

Henry C. Schneider M D F A.C S F I.C.S., *Assistant Professor in Proctology*

Samuel W Lusenberg, A M., M D F I C S *Assistant Professor in Proctology*

Caleb H. Smith, B S., M.S. (Surg.) M.D F A C.S F I C S *Lecturer in Proctology*

Timothy F Moran, B.S., M D F I C.S *Instructor in Proctology*

Valentine R. Manning, M D *Instructor in Proctology*

Ralph C. Venturo, M D *Instructor in Proctology*

Jo A. Overleese, B A., M D *Instructor in Proctology*

THIRD YEAR

The course is for instruction in diseases of the anus, rectum, and colon, and is presented to the entire class in the form of fourteen formal lectures. While the essential features of anatomy physiology embryology and pathology are covered, special attention is given to the diagnosis and examination, differential diagnoses, treatment and pre-operative as well as post-operative care. The interrelationship of anorectal and colonic disease to general symptomatology is stressed. Special emphasis is given the major colon diseases, particularly cancer of the colon and rectum.

PROCTOLOGY—Continued

Fourth Year

Five informal lectures are presented to the entire class with presentation of interesting cases and patients are assigned to individual students for study diagnoses and recommended treatment. Bed side clinics are held for small groups of students to illustrate the methods of examination in making a diagnosis. Associated roentgenologic and laboratory findings are demonstrated and the medical or surgical management is discussed by attending and resident staff. Small groups of students serve a minimum of three hours weekly during the year in the out-patient clinic. Each student is instructed in the proper method of examination, and in the use of the proctoscope and sigmoidoscope. Emphasis is placed upon examination, diagnosis, management, and pre and post-operative care.

PSYCHIATRY

O Spurgeon English, M D F.A.C.P F.A.P.A., *Professor and Head of the Department of Psychiatry*
Morris W Brody M.D F.P.C.P *Professor of Clinical Psychiatry*
Herbert Freed, M D *Clinical Professor of Psychiatry*
John N Rosen, M D *Clinical Professor of Psychiatry*
Eleanor A. Steele, A B M D *Clinical Professor of Psychiatry*
H Keith Fischer A B M.D M.S. *Associate Professor of Psychiatry*
A Victor Hansen, J BS M.D MS *Associate Professor of Psychiatry*
Calvin F Settlage B S M S., M D *Associate Professor of Psychiatry Director of Child Psychiatry*
Albert E. Scheflen, B.Sc M D *Associate Professor of Research Psychiatry Director of Research*
Georgiana Peacher BS PhD *Associate Professor of Speech Therapy*
O. Eugene Baum, A.B M D *Assistant Professor of Psychiatry*
Walter F Char M D *Assistant Professor of Psychiatry*
Stanley W Conrad, A B M D *Assistant Professor of Psychiatry*
Steven Hammerman, B S., M D *Assistant Professor of Psychiatry*
Francis H Hoffman, M.D *Assistant Professor of Psychiatry Director Residency Training and Clinic*
Beryl Jaffe, A.B M.D *Assistant Professor of Psychiatry*
William S. Robbins, A.B., M D *Assistant Professor of Psychiatry*
Harry H Wagenheim, B S M D *Assistant Professor of Psychiatry Director Psychosomatic Service*
Helen S. Wagenheim, A B., M D *Assistant Professor of Psychiatry*
Samuel Cramck, B.S., Ph D *Assistant Professor of Clinical Psychology*
Theodore B. Cohen, B.A., M.A., M D *Associate in Psychiatry*
E S. Caldwell Ford, B.S., M.D *Associate in Psychiatry*

PSYCHIATRY—Continued

Warren W. Hampe, Jr. A.B., M.D.	*Associate in Psychiatry*
Melvin S. Heller B.S., M.D.	*Associate in Psychiatry*
Allen C. Miller A.B., M.D.	*Associate in Psychiatry*
George Russell, B.S. M.D.	*Associate in Psychiatry*
Kenneth H. Gordon, Jr. M.D.	*Associate in Psychiatry*
Carl M. Grip, Jr. B.A. Ph.D.	*Associate in Psychology*
George P. Kochis, M.D.	*Associate in Psychiatry*
Clarence R. Parker A.B., M.D.	*Associate in Psychiatry*
Raymond B. Reinhart, A.B. M.D.	*Associate in Psychiatry*
Norma A. Scheflen, A.B. M.A., Ph.D.	*Associate in Research Psychology*
Margaret N. Dealy A.B., M.D.	*Instructor in Psychiatry*
Edward F. Furukawa, B.A., M.D.	*Instructor in Psychiatry*
Richard K. Greenbank, B.A., M.D.	*Instructor in Psychiatry*
Max Katz, B.A., M.D.	*Instructor in Psychiatry*
Kenneth Kool, M.D.	*Instructor in Psychiatry*
Kenneth K. Milgram, B.A. M.D.	*Instructor in Psychiatry*
Theodore Orlik, M.D.	*Instructor in Psychiatry*
Gertrude O'Connell, A.B., M.S.S.	*Assistant Professor of Psychiatric Social Work, Chief Social Worker Psychiatric Clinic*
Carol Krusen Scholz, B.A., M.A.	*Assistant Professor of Psychiatric Social Work*
Emily R. Poynter A.B., M.S.	*Associate in Psychiatric Social Work*

FIRST YEAR

Scope of Psychiatry

In the first semester eight hourly lectures present a broad view of psychiatry as a clinical science. Its history physiologic and organic aspects, the treatment of adults as in-patients and out patients, child psychiatry and psychiatry in relation to the general practice of medicine are discussed.

Normal Personality Development

In the second semester sixteen hourly lectures describe the origin and development of the components of the personality The significance of this understanding for normal living is stressed. A résumé of the various psychiatric syndromes and nomenclature is given.

SECOND YEAR

Psychopathology of Emotional Illness

Sixteen lectures in the second semester emphasize the description and recognition of clinical syndromes, with discussion of their psychopathology and psychodynamics. Patients are interviewed

PSYCHIATRY—Continued

before the class, students in the elective present cases, and tape recordings are played.

Doctor-Patient Relationship

These sixteen lectures in the second semester are devoted to helping the students anticipate and appreciate some of the interpersonal problems which will confront them in the clinical years. For part of the course, guest lecturers from other specialties discuss the doctor-patient relationship from their vantage points and experiences, projected against the framework of psychiatric conceptualization and understanding.

THIRD YEAR

Psychosomatic Medicine

Sixteen lectures in the first semester introduce the class to the principles and management of psychosomatic medicine. Clinical material is used to illustrate didactic material. Members of other departments participate in the presentation of clinical material.

Special Psychiatric Problems

This course of sixteen hourly lectures in the second semester is devoted to the handling of areas of emotional conflicts as found in the general practice of medicine. This includes acute psychiatric emergencies, the family's reaction to mental illness, marriage problems, sexual deviations, and delinquencies. Students in sections observe patients being interviewed through a viewing mirror.

Case Demonstrations

Students spend six hours during the year at Eastern Pennsylvania Psychiatric Institute where patients with psychotic reaction patterns are interviewed both by instructors in demonstrations and by students individually with discussion following.

Developmental Problems of Childhood

In the second semester six hourly lectures during the pediatric teaching at St. Christopher's Hospital cover normal emotional development from infancy through adolescence, with emphasis upon common problems associated with each phase, such as feeding, bedwetting, toilet-training and sleep difficulties. There is a discussion of the more common clinical neurotic and psychotic syndromes.

PSYCHIATRY—Continued

FOURTH YEAR

Clinical Psychiatric Demonstrations

During the year students in groups of eleven spend six hours at Philadelphia Psychiatric Hospital for demonstrations of psychiatric syndromes. Emphasis is placed on history taking integration of observed material into a clinical diagnostic category and projected treatment

Clinical Clerkship —Adults

1 Students in groups of six or seven spend four hours interviewing psychiatric patients under close supervision in the Psychiatric Clinic. Half the time is spent with the patients and the other half in a review of dynamic and unconscious factors in their illnesses. Treatment and prognosis are stressed.

2 Students in groups of six or seven for four hours observe patients in diagnostic interviews through a viewing mirror The patients psychopathology the dynamic interaction of therapist and patient, and the prognosis for treatment are discussed.

3 Students in groups of six or seven observe electroshock therapy for a total of eight hours. Other physical therapies utilized in psychiatric treatment are also discussed at this time.

Clinical Clerkships—Children

For a total of four hours, students in small groups interview children and parents for half the time, and the other half is spent in discussing the cases.

Comprehensive Medicine

For a description of the activities of the Department of Psychiatry throughout the four years in this program, see the Department of Medicine.

ELECTIVES

Students in the sophomore, junior and senior years are given the opportunity to treat patients with emotional problems in the Psychiatric Clinic during their free time. For each interview the student has with the patient, he has a half-hour of supervision by a staff psychiatrist, as well as necessary additional conferences with psychiatric social workers.

During the seniors assigned elective time, they may observe the continuing treatment of selected patients through the viewing

PSYCHIATRY—Continued

mirror After each therapeutic hour another hour is spent in discussion of the therapeutic interaction, the aims of each hour and areas of dynamic focus.

A year's elective in psychotherapy with children is offered to seniors at St. Christopher's Hospital under close supervision of psychiatrists and social workers.

RADIOLOGY

Herbert M Stauffer A.B M D M.S. (Radiology) *Professor and Head of the Department of Radiology*
Robert Robbins, A.B., M.D., M.S. (Radiology) *Professor and Co-Head of the Department of Radiology*
Gustavus C Bird, M D M.S. (Radiology) *Professor of Radiology*
Barton R. Young, M.D M.S (Radiology) F A C.R., *Clinical Professor of Radiology*
Henry J Wolochin, B.S., M.D *Assistant Professor of Radiology*
Jeffery P Moore B S., M D *Assistant Professor of Radiology*
Kia-Chu Tsien, B.S M.A *Assistant Professor of Radiological Physics*
John A. Kirkpatrick, J M D *Associate in Radiology*
Robert E. Paul, J M D *Instructor in Radiology*
Robert B. Finch, M.D *Instructor in Radiology*
Jay W MacMoran, M D *Instructor in Radiology*
Donald R Baker M.D *Assistant Instructor in Radiology*
Barbara L. Carter, M.D B S *Assistant Instructor in Radiology*
Sigurd E. Johnsen, M D Ph.B *Assistant Instructor in Radiology*
Leopoldo L Margarida, M D A B. *Assistant Instructor in Radiology*
Walter T Sale, M.D A B. *Assistant Instructor in Radiology*
Louise I Korum, B S. *Assistant Instructor in Radiology*

First Year

The teaching of Radiology begins in the first year with a course given in cooperation with the Department of Anatomy and carefully coordinated with the work in Anatomy It is conducted by demonstrations and illustrated lectures which are presented to the entire class, and by section work in groups of six students in the fluoroscopic room. The first year teaching is presented as a course in Anatomy as Revealed by the Roentgen Ray The subject matter includes the fundamentals of x ray physics, especially those which play an active part in the production of roentgenograms and fluoroscopic images, the biologic effects of x-rays and other radia-

RADIOLOGY—Continued

tions, the anatomy of the child, epiphyseal development, osteology including bone architecture, and topographic anatomy. In small groups of six, the students are taken to the fluoroscopic room where they fluoroscope their fellow students and receive instruction in visceral position, movements of the diaphragm and viscera, and the importance of special angles of projection, opaque media, etc. Demonstrations and illustrated lectures are arranged so that each subject is presented at the appropriate moment with reference to the schedule of the dissecting room.

SECOND YEAR

In the sophomore year "Gross Pathology as Revealed by the Roentgen Ray" is presented as a direct correlation with the course in Gross Pathology as a joint enterprise with the Department of Pathology. The normal roentgen findings in connection with the various systems are reviewed and the fundamental gross pathologic changes demonstrable by x-ray are presented.

In addition, there is a one hour demonstration of "Physical Diagnosis Checked by the Fluoroscope." In groups of six to eight, the second year students are taken to the fluoroscopic room. Each student goes through an orthodiagraphic procedure which places upon his ventral chest wall an accurate orthodiagraphic tracing of his cardiovascular silhouette.

THIRD YEAR

In the junior year a systematic presentation of "Organ and System Pathology as Revealed by the Roentgen Ray" and "Fundamentals of Radiation Therapy" is offered one hour a week for approximately nineteen weeks.

FOURTH YEAR

As a part of the section work which is a feature of the fourth year curriculum, the class is divided into groups of six or seven which attend four, five or six sessions in the Department of Radiology. These groups receive practical demonstrations in X-ray and Radium Therapy, in roentgen diagnosis of the chest, skeleton and abdomen and in roentgen analysis of fractures. They also attend the Chest and Tumor Conferences weekly.

In addition to the section work above described, an elective course in Radiology is offered for a period of six hours to six students at a time.

RADIOBIOLOGY

Robert Robbins, A.B., M.D. M.S. (Radiology) — *Professor of Radiology and Director of Radiobiology Laboratory*
R. Kenneth Loeffler, A.B. M.D. — *Associate Professor of Radiology*
Kia-Chi Tsien, B.S., M.A. — *Assistant Professor of Radiology (Physics)*
Louise L. Kotsma, B.S. — *Assistant Instructor in Radiology*

The Radiobiology Laboratory has been active for approximately five years, serving as the service and research center for the Temple University Medical School and Hospital in the province of radioactive isotope activities. During this interval an extensive program concerning the diagnosis and treatment of thyroid diseases with radioactive iodine has been embarked on, and is now solidly established as a service procedure. Research in the diagnosis of thyroid cancer with radioactive iodine is under way. Determination of human blood and plasma volumes by means of radioactive isotopes has been extensively investigated. Several types of malignant blood diseases are being treated with radioactive isotopes. The use of radioactive colloidal gold in the treatment of several types of cancer is also now a firmly established and highly regarded therapeutic procedure. An extensive research program in radiation dosimetry involving the use of automatic computers, is under way.

At the research level, the Radiobiology Laboratory has been extensively investigating the physiology of the thyroid gland as revealed by radioactive iodine methods. The Laboratory has also assisted several other departments of the medical school and hospital in the investigation of phospholipid metabolism with radioactive phosphorus, the production of experimental hypothyroidism in laboratory animals with radioactive iodine, and in the study of several unusual types of blood disorders with radioactive tracers.

The Laboratory is engaged in a basic research program in radiobiology concerning the role of one of the important vitamin systems of the body in massive radiation injury.

SURGERY

W. Emory Burnett, A.B., M.D. F.A.C.S., *Professor and Head of the Department of Surgery*
George P. Rosemond, B.S. M.D. M.S. (Surgery) F.A.C.S., *Professor of Clinical Surgery*
H. Taylor Caswell, B.S., M.D. M.S. (Surgery) F.A.C.S., *Clinical Professor of Surgery*
John V. Blady B.S., M.D. F.A.C.S. *Clinical Professor of Surgery (Oncology)*
Giacchino P. Giambalvo M.D. F.A.C.S. *Clinical Professor of Surgery*

SURGERY—Continued

Octavus P Large, M D M S (Surgery) F A C S	*Assistant Professor of Surgery*
Robert M Bucher M D M S (Surgery) F A C S,	*Assistant Professor of Surgery*
R Robert Tyson, M D M S (Surgery) F A C S	*Assistant Professor of Surgery*
Paul R. Carey B S M D F A C S	*Associate in Surgery*
John R Minehart, A B M D F A C S	*Instructor in Surgery*
Vincent W Leahy A B, M D F A C S	*Instructor in Surgery*
Robert L Brant, B S M D F A C S	*Instructor in Surgery*
Herbert S. Raines, A B M D	*Instructor in Surgery*
William C Wright, A B M D	*Instructor in Surgery*
Robert D Harwick, M D	*Instructor in Surgery*
Milton J Miller D D S	*Instructor in Oral Prosthesis*
Eugene W Beauchamp Jr M D	*Assistant Instructor in Surgery*
G. Raymond Brown, J B S, M D	*Assistant Instructor in Surgery*
William P Rumney B S, M D	*Assistant Instructor in Surgery*
Charles A Tollett, B S M D	*Assistant Instructor in Surgery*
Dominic A DeLaurentis, B S M D	*Assistant Instructor in Surgery*
Joseph T Riemer A B M D	*Assistant Instructor in Surgery*

St Christopher's Hospital for Children

Robert P Glover B S M S M D F A C S	*Professor of Clinical Surgery (also Episcopal)*
Samuel L. Crewson, A B M D F A C S	*Assistant Professor of Surgery*
Richard S. Oakey A B, M D F A C S,	*Associate in Plastic and Reconstructive Surgery*
George P Pilling, 4th, A B M D F A C S	*Associate in Surgery*
Thomas C. McAuliffe, M D	*Instructor in Surgery*
John H Wolf M D	*Instructor in Surgery*

Albert Einstein Medical Center—Northern Division Staff

Albert Behrend, M D F A C S	*Assistant Professor of Surgery*
Ralph Coldsmith, M D F A C S	*Assistant Professor of Surgery*
Edwin Mendelssohn, M D F A C S	*Associate in Surgery*
Benjamin Greenspan, M D F A C S	*Associate in Surgery*
Meyer Corff M D F A C S	*Associate in Surgery*
Samuel Levine M D F A C S	*Associate in Surgery*
Jerry Zaslow M D	*Associate in Surgery*
Gerald Amsterdam, M D	*Instructor in Surgery*
Louis Block, M D F A C S	*Instructor in Surgery*
Julian A. Sterling, M D	*Instructor in Surgery*
H. Earle Tucker M D	*Instructor in Surgery*
George Manstein, M D	*Instructor in Surgery*

SURGERY—Continued

Sophomore Year

The introduction to surgery is begun in this year with a didactic course of two hours a week for sixteen weeks. The basic principles of surgery are given by lecture, slides and motion pictures. This course is the first part of a continuous course and is concluded in the Junior year. A final examination is held at the termination of this period.

Junior Year

Each morning throughout the year the students are clinical clerks on the wards and out-patient departments of the Philadelphia General Hospital, Episcopal Hospital and the Albert Einstein Medical Center Northern Division. In small groups of six, they are assigned new patients for histories, physicals, and laboratory work, and instructors review the cases with them. Students make rounds with the chiefs, instructors, and with the residents on service. They follow their cases to the operating room when operations are performed in the morning, and continue to observe the patient's course and to make progress notes postoperatively.

In the afternoon they return to the classroom, where for two hours each week for the entire year they are given formal presentations by lectures, demonstrations, slides, and movies on regional surgery, surgical diagnosis, the principles but not the techniques of operations, etc. Practical or movie demonstrations are given of minor therapeutic procedures such as catheterizations, gastric and intestinal intubations, spinal punctures, thoracenteses, paracenteses, oxygen administration by the various methods, hypodermoclysis, resuscitation, tourniquet applications, routine dressings, burn dressings, intravenous infections, removal of sutures, postural drainage for pulmonary infections, maintenance of suction on controlled drainage of empyema, the care of drains, particularly sump drains with suction, and other simple maneuvers. Similarly demonstrations of peripheral vascular efficiency such as skin temperatures, oscillometry, sympathetic blocks to test the circulation and Buerger's exercises, breast examinations, rectal and sigmoidoscopic examinations, spirometry and bronchospirometry, cardiac overload, venous pressures, and circulation times. Considerable time is spent on vascular surgery by Professor Rosemond and on infections and injuries of the hand by Professor Caswell. A short course is given by Professor Blady on cancer of the head and neck and cancer facts and theories. Lectures on surgical infections and minor surgical office procedures are also included.

SURGERY—Continued

Surgical pathology and applied anatomy are reviewed by the respective departments for those subjects.

Emphasis is laid upon shock and hemorrhage, blood replacement, and estimation of blood loss, blood substitutes, fluid and electrolyte balance, and nutrition in surgical patients. Surgical infections and chemotherapy and antibiotic therapy are discussed at length. Some time is spent on amputations and prostheses, early ambulation, and the rehabilitation of the surgical patient.

SENIOR YEAR

One-third of the class is assigned entirely to surgery for a third of the year. During this time there are round table conferences of groups of eighteen to twenty students four afternoons a week. At these conferences, previously assigned subjects are presented for discussion to elucidate problems which the students may have, and for review of the subject in practical fashion.

In the afternoon, as the final hour the entire class is assembled for clinics which are presented by the surgical department and the surgical specialties two afternoons a week. Toward the end of the year several of the better motion pictures on surgical subjects are utilized during these periods. Clinics are used to present clinical investigation, animal experimentation, and special procedures such as cardiac catheterization and plastic surgery.

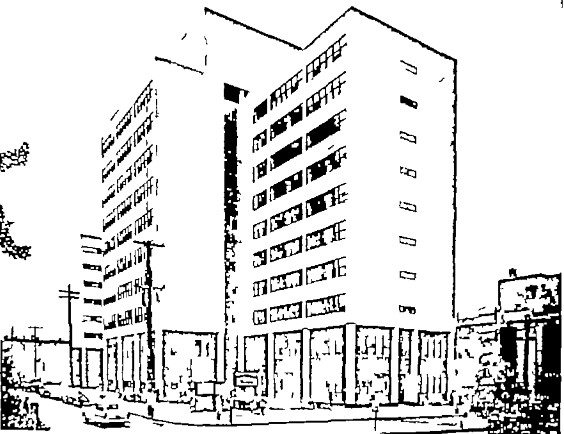
For the remainder of the day groups of six or seven students rotate through a clinical clerkship anesthesia, accident dispensary and surgical out patient clinic.

Clinical clerks are assigned to the wards and to private services. They are required to work up their patients completely assist at their operations, and take care of them postoperatively. The patient care consists of changing dressings, catheterization, and intubation. In all instances their work is supervised by the surgical resident working with them. Working rounds are made daily with the chief and surgical resident, and teaching rounds are made once a week with Professor Burnett.

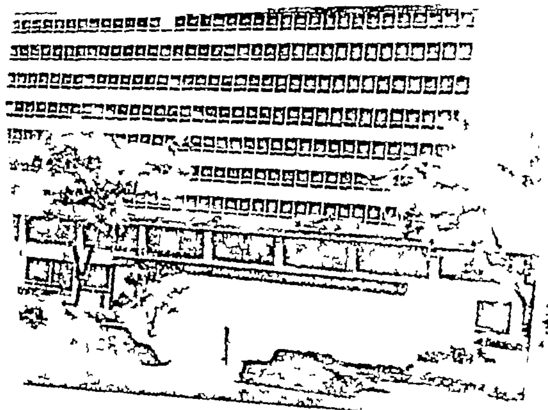
In the operating room, each student is required to assist in at least six minor and major surgical procedures, and he usually assists in three or four times this number in the assigned period. He is also required to give at least six anesthesias and, again, usually has three to four times this number by the end of this session.

In the accident dispensary and in the trauma clinic, the students are required to assist in the routine work. There are special instructors assigned to supervise their activities and to present special sub-

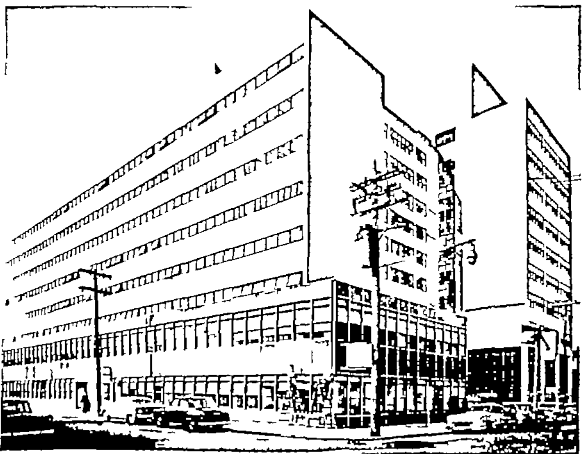
Buildings of the Temple University Medical Center



PARKINSON PAVILION



Buildings of the Temple University Medical Center



Out Patient Department

SURGERY—Continued

jects such as antisepsis and asepsis, the care of wounds, the determination of extent of injury emergency treatment, etc. Two students are required to stay each night in the accident dispensary and two others in the surgical wards.

Frequently on Saturdays, a correlation conference by the multiple departments presents surgical subjects, including several on the various aspects of cancer detection and treatment.

UROLOGY AND UROLOGICAL SURGERY

Kyril B. Cooper A.B., M.D. F.A.C.S.,
Professor and Head of the Department of Urology
Lowrain E. McCrea, A.B., M.D. F.A.C.S. *Professor of Clinical Urology*
Trudeau M. Horrax, A.B. M.D. M.S. (Urology) *Instructor in Urology*
Lester Karafin, A.B. M.D. M.S. (Urology) *Instructor in Urology*

Instruction in Urology is introduced with a preliminary lecture on urological diagnosis in the Sophomore year. The didactic material is covered by a series of 13 lectures during the Junior year. This includes discussion of the urological armamentarium, congenital, traumatic, infectious, obstructive, and neoplastic diseases of the genito-urinary tract. Calculus disease and neurogenital diseases are also covered, as well as miscellaneous topics including infertility and sterility.

During the senior year 11 clinics are given to the senior class at Temple University Hospital. Whenever possible these clinics are presented by the students themselves, who make clinical presentations of the various aspects of history, physical examination, diagnosis, treatment, and pathology of various pathological entities present in actual patients. All senior students rotate through the urology wards and the urology out-patient clinic at Temple University Hospital. The senior class also has the opportunity of bedside instruction in small groups on the urology wards at Philadelphia General Hospital.

Senior students are assigned as assistants in urological surgery at the time they rotate through the operating room.

Each year an elective course is presented to a small section (4 to 6 students) of the technique of cystoscopy and the general principles of urological diagnosis and interpretations of pyelograms.

GRADUATE STUDY IN THE BASIC MEDICAL SCIENCES

The Temple University School of Medicine offers graduate work leading to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees in anatomy, microbiology, pharmacology, physiological chemistry and physiology. These programs are distinct from the courses of study leading to the degree in Medical Technology, the M.D. degree and the post-graduate M.Sc. degree in clinical subjects.

Master of Science Program for Medical Students

It is possible for medical students to work concomitantly toward both the M.D. degree and the M.S. degree in one of the basic sciences. In order to qualify the student must have demonstrated his ability to do work of high quality. This program is best started the summer between his freshman and sophomore year but it can be started as late as the second semester of the sophomore year.

General Requirements

1. A minimum equivalent of a full calendar year in residence. This is fulfilled by 2 to 3 hours per semester during the regular school term, and the remainder as full time summer work.
2. A minimum of 24 semester hour credits exclusive of research. One semester hour means (a) 16 hours of lecture, recitation or conference or (b) 32 hours of supervised laboratory work.
3. Credits from graduate courses earned at other institutions may at the discretion of the Graduate Study Committee be applied toward satisfaction of the M.S. requirements. No more than 12 semester hour credits will be so allowed.
4. Course credits used to satisfy the requirements of the M.D. degree cannot under any circumstances be applied also toward satisfaction of the M.S. requirements.
5. The ability to read the pertinent literature of one foreign language must be demonstrated in the manner prescribed by the student's Advisory Committee.
6. The candidate must prepare a satisfactory thesis describing laboratory work of a research character.
7. A general examination in the major and related subjects is required.

Programs for Graduate Students in the Basic Medical Sciences

Admission

Any individual holding the Bachelor's or a higher degree from an accredited college or university may apply for admission. Appli-

cation should be made to the head of the department in which the applicant intends to concentrate his studies. A personal interview is very desirable but not essential.

The following credits are in general considered as the minimal prerequisites

Biology	12 semester hours
Chemistry	16 semester hours
English	6 semester hours
Foreign language	6 semester hours
Mathematics	6 semester hours
Physics	8 semester hours

After review of the applicant's record the major department may prescribe one or more of the Graduate Record Examinations. The completed application is then submitted to the Graduate Study Committee for approval. Applicants may be admitted with conditions which, however, are determined in each case by the Graduate Study Committee.

Candidacy for a Degree

Admission to a course of study does not admit a student to candidacy for a degree. Admission to such candidacy is contingent upon the ability of the student, the quality of his work, completion of at least one semester in residence, fulfillment of the foreign language requirement, and the removal of any deficiencies which may have conditioned his admission to the course of study. A student becomes a candidate upon notification from the Office of the Dean following approval by the Graduate Study Committee of the major department's recommendation.

Master of Science Program

The M.S. degree may be earned within a period of 15 months of full time study or in two years as a Teaching Fellow. The other requirements are the same as those for the M.S. program for medical students.

Doctor of Philosophy Program

The Doctor of Philosophy degree is conferred in recognition of the candidate's demonstrated ability to carry out independent investigation and his competency in the general and special fields of the subject.

General Requirements

1 Candidates must spend a minimum of 3 years of full time pursuance of a graduate study program, at least two years of which

are in residence at Temple University School of Medicine. Teaching Fellows who retain this status throughout their period of study will need to spend a minimum of 4 years.

2. The minimum course requirement is 48 hours exclusive of research.
3. Credit for work done at other institutions may be transferred at the discretion of the Graduate Study Committee, but in no instance shall it exceed 24 semester hours.
4. A reading knowledge of two modern foreign languages is required.
5. To become a candidate for the Ph.D degree a student must pass a qualifying examination. The form of this examination is determined in each instance by the candidate's Advisory Committee.
6. A comprehensive examination covering the major subject and such minor subjects as have been selected by the candidate's Advisory Committee is held approximately one year before the granting of the degree.
7. A dissertation showing high attainment and power of independent research must be written upon some topic in the field of the major subject. This study should represent a definite contribution to human knowledge; it may be either positive or negative in character. The dissertation is over and above all course work and constitutes a requirement of a different nature.
8. If the candidate's Examining Committee approves his dissertation, it meets with the candidate for an oral examination upon the field of his research.

Post-Graduate Course in Psychosomatic Medicine for Internists and General Practitioners

(Dates to be announced)

The course is designed to assist internists and practitioners of general medicine in the diagnosis and management of psychoneurotic and psychosomatic problems. It is not intended for specialization in psychiatry. The course will extend for approximately three weeks and is open only to a limited number of qualified physicians. Fee: $200.00

Experimental Neurology

Ernest Spiegel, M.D. — *Professor of Experimental and Applied Neurology*
Emery G. Szekely, V.M.D. — *Research Associate*

Courses are given in Neurology of the eye and ear visceral neurology experimental technic, regional diagnosis in the central nervous system. Physicians and biologists may participate in research work on epilepsy action potentials of the central nervous system, neuroophthalmologic and neurotologic problems, and vegetative nervous systems.

Colloid Chemistry

Mona Spiegel Adolf, M.D. *Professor of Colloid Chemistry*

Graduate physicians have an opportunity for instruction and research work in protein and lipoid chemistry as well as in the approach of clinical problems from a colloid-chemical point of view

Post-Graduate Course

Post-graduate course of three years leading to the degree of Master of Science in the specialty studied. The lectures and laboratory work are conducted by the pre-clinical professors in the laboratories of the School of Medicine. The clinical work is given in the Temple University Hospital.

Courses in Pathology Bacteriology Chemistry Pharmacology and Physiology

Two year course leading to the degree of Master of Science in one of the above subjects. This course is designed for those who have successfully completed the four year course in medical technology Fee $400.00 a year

SCHOOL OF MEDICAL TECHNOLOGY

Administration and Faculty

William N Parkinson, B S M D M.Sc. (Med.) F.A.C.S LL.D Sc.D L.H.D *Dean of the School of Medicine and of the School of Medical Technology*

Ernest E Aegerter A B., B.S M.D F.A.C P *Director of the School of Medical Technology Professor and Head of the Department of Pathology*

Marjorie I Robbins, A B M S., M.T A.S C P *Assistant Director School of Medical Technology*

Theodore G Anderson, Ph.B Ph D *Associate Professor of Microbiology*

M Noble Bates, A B A M., Ph D *Assistant Professor of Anatomy*

Edwin Sutton Gault, M D F.A.C.P *Associate Professor of Pathology and Microbiology*

Robert H Hamilton, Jr M.A Ph D M.D *Professor and Head of the Department of Physiological Chemistry*

John F Huber A.B M.A M.D Ph D *Professor and Head of the Department of Anatomy*

John A Kolmer M.S., M D D.P.H Sc.D LL D L.H.D F.A.C P F A.C D *Professor of Medicine and Director of the Institute of Public Health and Preventive Medicine*

Morton Klein, B S., M S., Ph D *Associate Professor of Microbiology*

Lyndall Molthan, B S M D M S. *Instructor in Medicine and Director of Blood Bank*

Hugo Roesler M D F.A.C.P *Associate Professor of Medicine*

Earle H Spaulding, A B., Ph D *Professor and Head of the Department of Microbiology*

Chris J D Zarafonetis, B.A., M.S., M D F.A.C.P *Clinical Professor of Medicine*

Instructors

Harry E. Hadd, A.B M A. — *Instructor in Endocrinology*

Grace Jamison, B S — *Instructor in Physiological Chemistry*

Annamae Krouse, B S. — *Instructor in Parasitology and Mycology*

Anthony Lamberti, B S., M S. — *Instructor in Parasitology and Mycology*

Martha Lisl — *Instructor in Electrocardiography*

Dorothy Loeb — *Instructor in Tissue Technique (Pathology)*

Elsa Lynch — *Instructor in Serology*

Elizabeth J Moses, B.S. — *Instructor in Hematology*

Inez Neely B S. — *Instructor in Blood Bank Technique*

Margaret Reese, B.S. — *Instructor in Gastric Analysis*

Benedict L. Suplick, B S., M S. — *Instructor in Endocrinology*

Helju Torop, B S. — *Instructor in Microbiology*

The course for Medical Technologists was incorporated into the University's program to meet the increasing need for carefully trained persons to do laboratory work in hospitals, industry, research, medical schools, public health bureaus, and physicians offices. The degree of Bachelor of Science in Medical was first conferred in 1939 on six students by Temple University. Since that time, the School has progressed and developed in conjunction with the growth of the Temple University Medical Center.

The School of Medical Technology is approved by the Registry of Medical Technologists, the American Society of Clinical Pathologists, and the American Medical Association. Graduates receive a Bachelor of Science degree in Medical Technology and are eligible for the national registry examinations.

Four years are required to complete the curriculum. The first two years are spent at the Undergraduate College. The last two years consist of specialized subjects taught at Temple University Medical Center.

Curriculum for the First Two Years

(Taught at Temple University)

Freshman Year		Sophomore Year	
SUBJECT	CREDITS	SUBJECT	CREDITS
Biology 1 2	9	Biology	3
Chemistry 1 2	9	Chemistry 21	3½
English 1 2	6	Chemistry 22	3½
Language		History 67-68	6
Physical Education		*Language*	
Equivalent to two years of a College Language		Mathematics	6
		Physical Education	
		Psychology 1	3
		Sociology 1	3

Tuition

Approximate cost per year $700.00

Curriculum for the Last Two Years

(Taught at Temple University School of Medicine and Hospital)

SUBJECT	CREDIT	SUBJECT	CREDITS
Microbiology	12	Blood Bank	3
Physiological Chemistry	12	Gastric Analyses	2
Serology	10	Urinalysis	2
Parasitology	3	Endocrinology	1
Hematology	12	Electrocardiography	½
Histology	6	Basal Metabolism	½

A total of 124 semester hours of credit are required for graduation.

Approximate Cost for the Junior and Senior Years

Fee (each year)	$100.00
Uniforms, Books, Breakage (yearly)	50.00

A Program Leading to the Degree of Master of Science in Medical Technology

1. The School of Medical Technology offers a graduate course of study. Any individual admitted to this course may become a candidate for the degree of Master of Science in Medical Technology.

2. Prerequisites for admission to graduate work in the School of Medical Technology are:

   A. The applicant must have a Bachelor's degree (B.A. or B.S.) from an accredited college or university and must have completed the following:

Chemistry	12 semester hours
Biology	12 semester hours
English	6 semester hours
History	6 semester hours
Language	Equivalent of 2 years of college language
Mathematics	3 semester hours

   Approved course in Medical Technology*

   B. Other requirements will be determined by the department supervising the individual's graduate assignment.

   C. Two years' experience in the field of Medical Technology must be completed before applying for graduate work.

3. If the applicant has met the requirements of the School of Medical Technology, his request is sent to the departments offering graduate programs in Medical Technology. These are:

   1. Biochemistry
   2. Hematology
   3. Microbiology

   The final decision for admission to the graduate program is made by the department with the approval of the Office of the Dean. Whenever possible, the applicant's preference of specialized work will be considered; however, only a limited number of students may be accepted in any one department.

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*Approved by the Council on Medical Education and Hospitals of the American Medical Association, 535 North Dearborn St., Chicago 10, Illinois.

SCHOOL OF NURSING

Florence E. Brown, R.N. B.S., M.S.	*Director of Nursing*
Rena L. White, R.N. B.S.	*Educational Director*
Ann Blanchard, R.N. B.S.	*Assistant Science Instructor*
Jean Erickson, R.N. B.S.	*Assistant Science Instructor*
Ruth Troyer R.N. B.S.	*Assistant Science Instructor*
Isabel Nagle, R.N.	*Nursing Arts Instructor*
Carolyn Croll, R.N. B.S.	*Assistant Nursing Arts Instructor*
Genevieve Long, R.N.	*Assistant Nursing Arts Instructor*
Joanne Coll, R.N. B.S.	*Assistant Science Instructor*

History of the School

The Samaritan Hospital, now Temple University Hospital, was founded in 1893 by Dr. Russell H. Conwell, noted Philadelphia clergyman and founder of Temple University. It was designed originally to meet in a small way an urgent need for hospital care in the community. The School of Nursing has been maintained continuously since the opening of the hospital. Today Temple University Hospital serves as an active community center for disease prevention and health education in addition to its function of caring for the sick. It serves as a teaching center for students of the Temple University Medical School, the School of Nursing and many other departments. It also functions as a center for medical research in numerous fields. The School of Nursing takes pride in its progress and rapid development in conjunction with this medical unit.

Accreditation

The School of Nursing is accredited by the Pennsylvania State Board of Examiners for the Registration of Nurses. It also has temporary accreditation with the National Nurses Accrediting Service.

The Hospital is approved by the American Medical Association and the American College of Surgeons.

Teaching Facilities

Students receive preclinical instruction in nursing care in the laboratories and classrooms of the School of Nursing. The wards of Temple University Hospital provide an excellent opportunity for a wide clinical experience. A large out-patient department, an emergency dispensary and the Chevalier Jackson Bronchoscopic Clinic serve as additional sources of experience. Students take the

course in Pediatrics at St. Christopher's Hospital in Philadelphia and Psychiatry at Philadelphia State Hospital.

During the preclinical period, the basic sciences are taught in the class rooms and laboratories of the Medical School and University by members of the University and School of Nursing faculties. After the preclinical period, the educational program is administered under the bloc system by the faculty of the School of Nursing with lecturers from the Medical School assisting. Students are relieved of all duties in connection with the nursing care of patients while they are receiving bloc instruction.

Suggested High School Preparation

Students in high school who are considering the study of nursing are advised to elect the academic course of sixteen units meeting general college entrance requirements. This course should include two years of mathematics and two years of science, one of which is chemistry. Physics is suggested as an elective. History and social sciences are recommended as electives and also a course in foods and nutrition. It is well to avoid vocational electives.

Requirements for Admission

1. Satisfactory completion of a sixteen-unit academic high school course which includes two years of science (one of which is chemistry) is required. Applicants from the upper third of the high school class will be given preference. The high school transcript must be approved through the issuance of a certificate of pre-professional education by the Pennsylvania State Department of Public Instruction.

2. Applicants should be 17½ years of age, citizens of the United States, of good character and in good physical health. Married students are accepted on an individual basis.

3. Pre-entrance health and aptitude examinations are given to all applicants before admission. Special arrangements are made for these tests and for a personal interview with a member of the nursing faculty.

4. Application should be made in writing to the Director of Nursing, Temple University Hospital, Broad and Ontario Streets, Philadelphia 40, Pa.

Admission Dates

Classes are admitted twice yearly, in February and September.

Organization of the Course

The three years of instruction are divided as follows

1 Preclinical period	6 months
2. Junior period	6 months
3 Intermediate period	1 year
4 Senior period	1 year

Completion of the Course

Students are required to maintain a passing grade of 75 per cent. The diploma of the School is awarded to those successfully completing the course. Graduates in order to practice as licensed or registered nurses take the first state board examination following the completion of the required 1095 days of undergraduate work. State registration enables the graduate to join her Alumnae Association as well as the district, state and national nursing organizations.

The Director of the School of Nursing reserves the right to request the withdrawal of any student who seems unsuited for the nursing profession scholastically or in any other way when the interest of the School requires it.

SCHEDULE OF FEES

First Year	
On admission	$100.00
End of preclinical period	$100.00
Second Year	
Beginning of first semester	$100.00
Third Year	
Beginning of first semester	$ 75.00

These fees are allotted to books, uniforms, sweater scissors, health examinations, recreational program, school pin and diploma.

Maintenance is provided free of charge for the three year period.

CURRICULUM

Preclinical Period

Subject	*Hours*
Principles of Nursing	120
Anatomy and Physiology	120
Chemistry	60
Microbiology	60
Psychology	30
Sociology	15

Subject	*Hours*
History of Nursing	15
Professional Adjustments I	15
Nutrition, Foods and Cooking	45
Elementary Pharmacology	30
Junior Period	
Pharmacology II	30
Diet Therapy	30
Operative Aseptic Technique	15
Medical Surgical Nursing	120
Respiratory Circulatory Gastrointestinal, Gynecology and Genitourinary Systems	
Intermediate Period	
Obstetrical Nursing	60
Pediatric	75
Medical-Surgical Nursing	70
Endocrine, Nervous and Musculo-Skeletal System, Ophthalmology and Otology	
Senior Period	
Social Problems	15
Professional Adjustments II	15
Psychiatric Nursing	185
Medical-Surgical Nursing	65
Tegumentary System and Communicable Diseases	

History and General Information

Historical Sketch

Temple University had its beginning in 1884 when a group of young men who desired to prepare for the ministry requested Dr Russell H Conwell, minister lecturer and philanthropist, to organize a program of night study Within four years this small group had increased to nearly six hundred, and Dr Conwell secured a college charter In 1891 the College of Liberal Arts established a day department and obtained the power to confer degrees. In 1907 the College became Temple University with Dr Conwell as its first president.

The student body and physical facilities of the University expanded with increasing rapidity During the period between 1891 and 1925 when Dr Conwell was president, the University acquired the Samaritan Hospital (now the Temple University Hospital) the Garretson Hospital the schools of Theology Law Medicine, Pharmacy Dentistry (formerly the Philadelphia Dental College) Oral Hygiene, Music, Chiropody Teachers College, and Business and Public Administration. The Greatheart Hospital (Maternity Department of the Medical School) also was obtained during this period.

During the administration of Dr Beury who succeeded Dr Conwell in 1925 the growth of the University continued in physical expansion and educational improvement. The Oak Lane Country Day School was secured as a laboratory division for the Teachers College and the Stella Elkins Tyler School of Fine Arts was added.

The building of the stadium, made possible by the generosity of Mr Charles G. Erny was completed the professional schools were rehabilitated Carnell Hall, a twelve-story recitation building was erected a new and well-equipped Medical School, housing several important clinics and laboratories, was constructed, and a beautifully furnished student recreation center Mitten Hall, was built as a memorial to the late Thomas E. Mitten. This tribute was made possible by the generous gift of the employees of the Mitten Management of the Philadelphia Transportation Company Through the gift of Mrs. Sullivan and the cooperation of the Public Works Administration the Thomas D Sullivan Memorial Library was constructed. In addition to the acquisition of new properties, the University remodeled College Hall.

On September 26, 1941 Robert Livingston Johnson was elected as the third president of Temple University He was inaugurated on December 4 of the same year

Today there are at Temple University four undergraduate colleges the College of Liberal Arts; the School of Business and Public Administration the Teachers College and the Stella Elkins Tyler School of Fine Arts. These offer courses in the day and evening schools which lead to the Bachelor's degrees. They also offer graduate courses which lead to the degrees of Master of Arts, Master of Business Administration, Master of Education, Master of Fine Arts, Doctor of Education, and Doctor of Philosophy

In 1946, in an attempt to provide for the increasing influx of students, Temple University opened two undergraduate centers. One, known as the Olney Unit, held classes during the late afternoon at Olney High School, Front and Duncannon Streets. The other the Havertown Unit, 200 Mill Road, Havertown, enrolled students for the first two years of their college program.

As a supplement to these centers, Cedarbrook, a freshman unit, was opened on Cheltenham Avenue below Mt. Pleasant Avenue. By the addition of these college centers, hundreds of students, who could not have attended college, were given the opportunity to begin classes. All of these centers have been discontinued—Olney in 1947 and Cedarbrook and Havertown in 1951 At the present time, the Cedarbrook Center houses the Community College where terminal courses are offered for students who wish training for specific objectives, but are unable to take four year programs.

In 1947 the Schools of Dentistry and Pharmacy moved from their old location at 18th and Buttonwood Streets to new quarters at 3223 North Broad Street, approximately one block south of the Medical School and Hospital.

The Technical Institute moved from its location at 720 North Broad Street to occupy the buildings at 18th and Buttonwood Streets which formerly housed the Community College. Specialized courses in technical subjects are offered by this division of the University Branches of the Institute have been established in Allentown, Reading, Scranton, Chester and Harrisburg

In September 1950, the curriculum of Medical Technology was organized as a separate division of the University

In addition to these schools and units, the University offers a wide range of work on the sub-collegiate and extension levels through the high school, laboratory schools, and numerous extension centers.

In 1951 the University purchased property in the 1700 block of North Broad Street which now is known as Reber Hall, the home of the Law School.

A new hospital building an eight-story out patient building and

an ancillary service building were added to the Medical School facilities in 1956. Thus a complete medical center has been erected at Broad and Ontario Streets.

During the summer of 1956, the University held sessions for the first time in Cyrus H. K. Curtis Hall, a newly constructed classroom building. Modern in design and completely air-conditioned, Curtis Hall adds fifty classrooms to University facilities. The building is located at the corner of Montgomery and North Park Avenues.

Construction was also started in 1956 on Peabody Hall, a dormitory for women. This new building including the latest facilities, will be located at North Park Avenue and Norris Street. Designed to house 295 residents, it will provide spacious bedrooms, four informal lounges with cooking areas, and an expansive parlor. In the rear of the dormitory will be an enclosed, landscaped patio for relaxation and recreation. Peabody Hall will be ready for occupancy in the fall of 1957.

Property adjoining the University has been cleared to provide a parking area for authorized faculty, administration, and students.

With these projects, Temple University is well advanced in its extensive Development Program, which, eventually, will encompass a thirty acre tract. In future years, the University hopes to construct additional buildings so that it can serve its community and its students in newer and better ways.

School of Medicine

The Medical Department of Temple University was opened in 1901. Classes were held in the evening and the course was distributed over five years to give the student the equivalent of a four year day course. In addition, seven hundred hours of actual day work were required each year. W. Wallace Fritz, M.D., D.D.S., was the Dean of the School of Medicine from 1901-1903; J. Newton Snively, A.M., M.D., from 1903-1909; and Frank C. Hammond, M.D., from 1910-1929. William N. Parkinson, B.S., M.D., M.Sc. (Medicine), F.A.C.D., Ed.D., LL.D., Sc.D., L.H.D., currently the Dean of the School of Medicine, assumed that position in 1929.

Classes were held in the main college building, Broad and Berks Streets, and at the Samaritan Hospital, Broad and Ontario Streets.

The Temple University School of Medicine was the first coeducational medical school in Pennsylvania. Two women received their medical degrees in 1908.

Unfavorable legislation made it apparent that the evening classes would have to be abandoned since it was impossible for graduates

to obtain the necessary licensure to practice in many states. It was with regret, therefore, that students were urged whenever possible, to transfer to the day classes which were being organized. Day classes were held first in 1907 and by 1909 the evening classes had been discontinued.

By 1924 it was felt that the Garretson Hospital, annexed to Temple University in 1907 to provide for clinical and ward teaching had outlived its usefulness because of the fact that many industrial plants were moving to distant suburban locations, and the maternity department had been moved to the Greatheart Hospital at Eighteenth and Spring Garden Streets. It was decided to utilize the three upper floors of the Garretson Building for laboratories. Modern equipment was installed for the Departments of Physiology Embryology and Histology Pathology and Bacteriology In addition, a new medical dissecting room with the most improved facilities was installed in the basement of Medical Hall.

The Garretson Hospital was moved to the Spring Garden Street building during the course of the next three years, and the entire building on Hamilton Street was turned over to the Medical School for teaching purposes. This meant that larger classes might be accommodated since each laboratory department now occupied an entire floor

The Samaritan Hospital was greatly enlarged by a new building dedicated June 28 1925 and the older sections of the hospital were renovated so that the teaching hospital of Temple University took its place among the largest and best-equipped hospitals in the City The bed capacity with the addition of the Roosevelt Hospital floor was 330. In the winter of 1929 it was decided to change the name of the hospital to Temple University Hospital, which more clearly reveals its close connection with the University Additional floors have been built on the hospital, and the present capacity is 900 beds.

In the fall of 1929 ground was broken for the new Medical School building to be erected directly opposite the Hospital at Broad and Ontario Streets, and the building was ready for occupancy in September 1930. The total cost of the complete structure was one and a quarter-million dollars. The School has a beautiful room to house the splendid library Administrative offices share the first floor with the library The second floor houses the Pathology Museum, Public Health, and the Department of Medical Art. The third floor is devoted to the Departments of Neurological Research and Pharmacology The fourth floor houses the Departments of Physiological Chemistry and Physiology The Departments of Pathology Microbiology and Public Health occupy the

fifth floor and the sixth floor is assigned to the Departments of Anatomy and Radiology. The seventh floor contains storage facilities for mammals, rodents, etc., medical and surgical Research Rooms. The Fels Institute of Research Medicine is located on the first and eighth floors.

The hospital, clinic and laboratory units of the Temple University Medical Center are all used for undergraduate and postgraduate medical instruction. The three new buildings, erected at a cost of $12,000,000, were formally dedicated in November 1956. The Parkinson Pavilion, Outpatient Clinics and Ancillary Services Buildings raised the hospital capacity to 900 beds, with an estimated annual admission total of 30,000. Outpatient clinic visits number 300,000 annually, providing service to approximately 80,000 patients.

The ten-story Parkinson Pavilion for in-patients, eight story Clinic Building for out-patients, and two-story Ancillary Services Unit are adjacent to each other and also connected with the older buildings. The Ancillary Services Building houses diagnostic and therapeutic x-ray facilities (including a 1.2 million electron volt cobalt unit), twelve new operating rooms with related spaces, and clinical laboratories of chemistry, microbiology and pathology.

Recent affiliation between the Skin and Cancer Hospital of Philadelphia and Temple University Medical Center and the establishment of an Institute for Direct Analysis in the Department of Psychiatry (by gifts from The Rockefeller Brothers Fund and others) have further expanded the scope of health services provided by the modern medical center of Temple University.

GENERAL INFORMATION

Location of Medical Units

The offices of administration of Temple University are located at Broad Street and Montgomery Avenue. The School of Medicine and the Temple University Hospital are at Broad and Ontario Streets.

The office of the School of Medicine can be reached by subway at the Allegheny Avenue Station, two squares south of Ontario Street, or by Broad Street bus to Broad and Ontario Streets.

Hospitals

The Temple University Medical Center where most of the clinical teaching is done, ranks with the larger institutions of the city in facilities and equipment. It has a capacity of 900 beds and affords abundant and constantly increasing material for clinical instruction in every branch.

During the last year 16 158 patients were admitted to the Temple University Hospital, and 191 077 visits were made to the out-patient department. 2,67? babies were born in the maternity department

The University owns the Temple University Hospital and has affiliated with it the Eagleville Sanatorium Episcopal Albert Einstein Medical Center Northern and Blockley Divisions Philadelphia General Shriners Skin and Cancer Hospital St. Christopher's (Pediatric Department) and Abington Hospitals and Public Health Center #8 for teaching purposes.

Location of Units of the University

The administrative offices of the University and the classrooms of the College of Liberal Arts, the Teachers College, and the School of Business and Public Administration are on Broad Street, between Columbia Avenue and Norris Streets. Curtis Hall is located at the corner of North Park and Montgomery Avenues. The Thomas D Sullivan Memorial Library is on Berks Street at Park Avenue. Thomas Hall is located at 1940 North Park Avenue. South Hall, 1705 North Broad Street and Stauffer Hall at 1834 North Park Avenue. Mitten Hall, the student recreation center where there are lounges, dining hall, cafeteria, grille, etc., is on the corner of Broad and Berks Streets near the dormitories for men and women which are located on North Park Avenue.

Other units of the University are located as follows:

The Medical School, northwest corner of Broad and Ontario Streets.

The Temple University Hospital and the Nurses Home, northeast corner of Broad and Ontario Streets.

The School of Nursing Offices, Temple University Hospital.

The Nurses Residence, 15th Street and Allegheny Avenue and 17th and Tioga Streets.

The Professional Schools of Dentistry Pharmacy and Oral Hygiene, 3223 North Broad Street.

The School of Chiropody 18th and Spring Garden Streets.

The School of Theology 1938 North Park Avenue.

The School of Law Reber Hall, 1715 North Broad Street

The University High School, 1417 Diamond Street.

The Oak Lane Country Day School, Oak Lane Road, Oak Lane.

The Technical Institute, 1810 Spring Garden Street.

The Community College, Cheltenham Avenue and Sedgwick Street.

Community Services Division, Office, 1817 North Broad Street.

The Stella Elkins Tyler School of Fine Arts, Penrose and Beech Avenues, Elkins Park.

The stadium, clubhouse, and athletic fields, City Line and Vernon Road.

Administration and Faculty

Administration and Faculty

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Lester Rauer, A.B., M.D., *Assistant Professor of Pathology*

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Philip Rosenberg, Ph.D., *Assistant Professor of Audiology in Department of Otorhinology, Director of Audiology Section*

John B. Roxby, Jr., A.B., M.A., M.D., *Assistant Professor of Dermatology*

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Kia-Chi Tsien, B.S., M.A., *Assistant Professor of Radiological Physics*

R. Robert Tyson, M.D., M.S., F.A.C.S., *Assistant Professor of Surgery*

Harry H. Wagenheim, B.S., M.D., *Assistant Professor of Psychiatry*

Helen S. Wagenheim, A.B., M.D., *Assistant Professor of Psychiatry*

Harvey F. Watts, M.D., *Assistant Professor of Pathology*

C. Robert E. Wells, B.S., M.D., M.S., F.A.A.P., *Assistant Professor of Pediatrics*

Henry J. Woloshin, B.S., M.D., M.S., *Assistant Professor of Radiology*

Jacob Zatuchni, A.B., M.D., M.S., F.A.C.P., *Assistant Professor of Medicine*

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Charles R. Bepler M.D., M.S., *Instructor in Medicine*
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Sydney Borow A.B. M.D. *Instructor in Pediatrics*
Robert E. Brant, B.S. M.D., F.A.C.S., *Instructor in Surgery*
George Brown, M.D., *Instructor in Dermatology*
Bertram J. Channick, B.A., M.D., *Instructor in Medicine*
Abraham L. Cohen, M.D. *Instructor in Dermatology*
Domenico Cucinotta, M.D., *Instructor in Pediatrics*
Michael J. Daly M.D., *Instructor in Obstetrics and Gynecology*
Margaret N. Dealy A.B., M.D., *Instructor in Psychiatry*
John H. Doane, Jr., B.S. M.D., *Instructor in Medicine*
James C. Erickson, B.A., M.D., *Instructor in Anesthesiology*
Edward Filmyer Jr., M.D. *Instructor in Pediatrics*
Carl S. Filsinger B.S., M.S. M.D. *Instructor in Pediatrics*
Frank L. Follweiler B.S., M.S., Ph.D., M.D. *Instructor in Otorhinology*
Robert B. Funch, M.D., *Instructor in Radiology*
Edward F. Furukawa, B.A., M.D. *Instructor in Psychiatry*
Joseph M. Garfunkel, M.D. M.S., *Instructor in Pediatrics*
Leonard S. Girsh, B.S., M.D. *Instructor in Medicine*
Richard K. Greenbank, B.A., M.D., *Instructor in Psychiatry*
Charles Harris, B.A., M.D., *Instructor in Medicine*
Mary Ellen Hartman, A.B., M.D. *Instructor in Anatomy*
Robert D. Harwick, M.D. *Instructor in Surgery*
Terry T. Hayashi, M.D., *Instructor in Obstetrics and Gynecology*
Hugh Hayford, M.D., *Instructor in Obstetrics and Gynecology*
Louis D. Hoffstein, M.D., *Instructor in Dermatology*
Trudeau M. Horrax, A.B., M.D., M.S., *Instructor in Urology*
Bernard J. Houston, B.S., M.D., F.A.A.P., *Instructor in Pediatrics*
Harold L. Hyman, M.D., M.S., *Instructor in Medicine*
C. Charles Imperiale, A.B., M.D., *Instructor in Medicine*
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Kenneth Kool, M.D., *Instructor in Psychiatry*
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Valentine R. Manning, M.D., *Instructor in Proctology*
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Robert E. Paul, Jr., M.D., *Instructor in Radiology*
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George H Stewart, B.S., *Instructor in Medical Physics*
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Walter M. Leby, M.D., *Assistant Instructor in Pathology*
Leopoldo E. Margarida, M.D., A.B., *Assistant Instructor in Radiology*
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John Strenge, B.A., M.D., *Assistant Instructor in Anesthesiology*
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Leonard Zubrzycki, A.B., *Teaching Fellow in Microbiology*

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Karl H. Beyer, B.S., Ph.M., Ph.D., M.D., *Lecturer in Pharmacology*
Arthur Q. Penta, M.D., *Lecturer in Medicine*
Vernon Vernier, B.S., M.D., *Lecturer in Pharmacology*

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Charles Harris, B.A. M.D. — *Associate in Research Pathology and Instructor in Medicine*
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Margot Gruenstein — *Research Associate*
Seymour M. Shore, A.B., M.D. — *Instructor in Medicine*
I. N. Marks, B.Sc. M.B., Ch.B. (Capetown) M.R.C.P. (Edinburgh) — *Research Associate*

Technical Associates

Chemistry

George F. Gramm, A.B., B.S., M.S.
Hazel Kimmel, B.S.
Pearl M. Block, B.S.
Shirley Lacey B.S.

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Phyllis Tatman
Maxine J. Levin
Fay E. Cohen

Pathology

William T. Burke, A.B.
Grace M. Brotherton, M.T. (ASCP)
E. S. Taylor A.B.
Amelia Rhoads

Hematology

Mary M. Acuff, M.T. (ASCP)
Dolores P. McKeever

Laboratory Assistant

Laura C. Blake
Mable L. Durbin
Martha S. Goolsby
Clarence D. Dennison
Luise Kruger
Edison Martin

Degrees, Honors, and Prizes



Philadelphia General Hospital



Eagleville Sanitorium (Tuberculosis)

Degrees, Hon...

At the 70th Commencement exercises ... following degrees were conferred

Master of Science (Internal Medicine)
William C. Y. Loh, M.D.
Anna Marie Chirico, M.D.
Sidney Barr, M.D.

Master of Science (Obstetrics and Gynecology)
Paul U. Weaver, M.D.
William T. Mixson, M.D.
Mary Elizabeth Blanchard, A.B., M.D.
Louis Gerstley III, A.B., M.D.
Charles John Hefele, M.D.
Frederick Albert Sherwood, B.S., M.D.

Master of Science (Ophthalmology)
Arthur Raymond Vaughn, Jr., M.D.

Doctor of Science (Pathology)
Margaret C. Collins, A.B., M.A., M.D.

Master of Science (Pathology)
Clarence L. Lithman, B.S., M.D.

Master of Science (Pediatrics)
Edwin H. Abrahamsen, B.S., M.D.

Master of Science (Proctology)
Edmundo Arias Segredo, M.D.

Master of Science (Psychiatry)
Kenneth Hickok Gordon, M.D.

Master of Science (Radiology)
Joseph Peter Sieger, B.S., M.D.

Doctor of Science (Surgery)
David J. McAlpen, B.A., M.D.
Sherman William Thorpe, B.A., M.D.
William Case Wright, B.A., M.D.

Master of Science (Urology)
Lester Karafin, M.D.

of Medicine

...
Armstrong
...ne Beam
...h Arthur Beck
...rry Dwight Bilde
Robert Paul Blume
William Monroe Boger
John Henry A. Bomberger
Richard Alan Buckwalter
LeRoy James Byerly
Jason L. Campbell
Edith Siegener Chasteney
Edward Augustus Chesteney III
Alphonse V Clement, Jr
James Richard Clifford
Samuel William Clipp
Peter Royal Coggins, III
Raymond Glenn Cornell
Charles William Delp, Jr
John Zehner Delp
Joseph Cornelius Donnelly Jr
Eugene Valentine Donohoe
James Kirk Drennen, Jr
Stephen John Dubel
John Ridgway Durant
Joseph Harold Engle
Walter Evans English, Jr
Nelson Lee Entwistle
Herbert H E ...off
Carl Vincent Fasano
Gordon Bernard Fink
David Garrison Flaharty Jr
Gilbert Anthony Friday
Thomas L. Geib
Frederick H. Gloeckner Jr
Arthur Erwin Gordon
Herschel Wallace Gordon
Lawrence Leslie Gros
Clarke Turner Harding, J
Chauncey Roger Headley
Guy William Heder
Richard Frank Hench
Robert Nathaniel Henderson
Mark Anthony Hennessey
Harold Herman
Frank Benton Herzel, Jr
James Stokes Hewson
Willis S. Hoch
Sidney A. Hollin
Clyde LeRoy Holmberg
Edwin Hostetter Hopton
Gerard Theodore F Humma
Robert V Jacobs
R. Philip Johnsen
Edgar Arnold Jones
John Peter Kala
Harry A. Kaupp, Jr
George Hamilton Keates
Galen Eugene Keeney
Robert Metcalfe Kemp
A Richard Kendall
Harvey David Klecht
James George Kornmesser
William Henry Kreienberg
Charles Stuntz Krueger
William Walter Lesh
Marvin Harold Lipkowitz
Charles Federico Llenza
S. Sara Macut
James Frederick Madison
Chester Wadsworth Mahon, Jr
Betty Lou Marchant
DeForrest Wynn Marchant
Phillip Ross Martin, Jr
Samuel B McCarter
John P McDade
Marianne Borkey McEnen
Darrell W McIndoe
John M Mead
Ralph Richard Messick
Durand Albert Metrione, Jr
Bernhard Theodore Mittemeyer
James Andrew Mollick
Jerry F Naples
Gerald George Olson
Winston R. Ortiz
Rudolph J Panaro
Morton Henry Perlman
Alfred Edwin Pollicke
Anthony Joseph Puleo
Donald Reid
Alexander Rein
Charles William Reninger Jr
Curtis Lee Rentschler
Bernard Francis Rice
Bruce Harold Rice
Max Lee Ronis

With Honors.

Nathan Rosenbaum
Gerald H. Rosen
Peter Paul Rosecki
Carlos Samayda Salazar
Erwin L. Samuelson
Leslie Jack Schoenfield
Robert Roy Schweitzer
George Showak
Albert Norman Siegel
Lawrence H. Snow
Donald Lee Snyder
Jerry Stiffel
*Susan Marie Stormer
John Robert Sylvester
Phyllis Ann Szolack
Richard Clark Templeton
Richard John Thomas
Francis M. Tiers
Forrest Glenn Tompkins
Guy Bryan Townsend
Ernest Arthur Trembley
J. Stewart Urban
Donald Robert Weaver
Philip D. Williams, Jr.
Richard Hinckley Wolff
Joseph Henry Wood, J
George Athanaseos Zarzana
Charles Keller Zug, III

With Honors.

HONOR STUDENTS

GRADUATING CLASS 1956

Faculty Prize

A medallion and check for Twenty five Dollars to the member of the graduating class attaining the highest general average during the four year course. Awarded to ANTHONY J PULEO. Honorable mention to CHARLES K. ZUG.

Alumni Prize

By the Medical Alumni Association, a medallion and check for Twenty five Dollars to the senior student attaining the highest general average in the subjects of the senior year provided the last two years of the course were taken in Temple University. Awarded to ANTHONY J PULEO. Honorable mention to JOHN R. DURANT and CHARLES K. ZUG.

Students attaining the highest averages for the four years.

Honor Roll

Name	*Average*	*Pre Medical School Attended*
Puleo, Anthony J	94.50	University of Pennsylvania
Zug, Charles K III	93.50	Lehigh University
Durant, John R.	91.75	Swarthmore College
Gordon, Arthur E.	91.25	Temple University
Kendall, A Richard	91.25	Franklin and Marshall College
Hench, Richard F	91.00	Pennsylvania State University
Kleven, Harvey D	90.75	Temple University
Stormer Susan M.	89.75	Pennsylvania State University
Albright, George A.	89.50	Franklin and Marshall College
Hopton, Edwin H.	89.00	Franklin and Marshall College

The Albert Einstein Medical Center Prize

A check for Twenty five Dollars to the student obtaining the highest average during the four year course. Awarded to ANTHONY J PULEO.

The American Academy of Dental Medicine Award

A Certificate of Merit for achievement, proficiency and promise in the field of Dental Medicine and a subscription to the Journal of Dental Medicine. Awarded to JOHN R. DURANT

American Medical Women's Association Award

Honorable mention to SUSAN M. STORMER.

Faculty Research Award

This medal is presented by the faculty to CHARLES S. KRUEGER in recognition of his achievement in research. He evaluated the usefulness of eye tests for inhalant allergens under the guidance of Dr Louis Tuft.

C. V Mosby Scholarship Award

Mosby Books in the amount of twenty dollars to each of the following students HARVEY D KLEVIT JOHN R. DURANT and ANTHONY J PULEO.

Hoffmann-LaRoche Award

A gold Omega watch awarded to the sophomore student who best exemplifies the ideals of the modern American physician. Awarded to JOHN ALBERT UDALL.

ORGANIZATIONS

FRATERNITIES AND SOCIETIES

ALPHA EPSILON IOTA
1409 W Ontario Street

ALPHA KAPPA KAPPA
3337 39 N 17th Street
RA 5-9823

PHI ALPHA SIGMA
3336 N 16th Street
RA 5-9869

PHI BETA PI
1421 W Ontario Street
SA ?-9509

PHI CHI
1423-25 W Ontario Street
SA 2-9775

PHI DELTA EPSILON
3434 N Broad Street

PHI LAMBDA KAPPA
(Inactive)

PHI RHO SIGMA
3232 N 16th Street
RA 5-9698

BABCOCK SOCIETY
Dr Wayne Babcock
Honorary President

ALPHA OMEGA ALPHA
Honorary Medical Society

STUDENT RESEARCH DAY

In an effort to stimulate student participation in both applied and basic research, an afternoon was set aside for presentation of student research papers. This period has been designated "Student Research Day" and is the second Wednesday in December. Following the student program a distinguished guest speaker has presented an appropriate paper of his choosing. This program, while new, has been well received as evidenced by increased attendance each year and an increase in students taking part in research each year.

A faculty medal for achievement in research is presented each year at graduation to the senior who during his undergraduate years has shown the greatest achievement in research.

Physicians Taking Postgraduate Studies at Temple University School of Medicine and Hospital

Length of courses—three or four years)

Adams, James	Pediatrics
Aldana, Benigno	Neurosurgery
Arbogast, John W	Obstetrics and Gynecology
Auerbach, Arthur H	Psychiatry
Baker Donald R.	Radiology
Baragli, Anna M.	Anesthesiology
Barry Theodore J	Psychiatry
Beauchamp, Eugene W	Surgery
Bonakdar Pour Akbar	Radiology
Borofsky Leatrice	Pediatrics
Bravo, Cesar	Medicine
Brelian, P	Pediatrics
Brown, George R.	Surgery
Bruce, James E.	Anesthesiology
Cardenas, Nicholas	Pediatrics
Carter Barbara L.	Radiology
Chang, Walter Y M.	Surgery
Chevoca, Antonio S.	Pediatrics
Clark, Randall L.	Ophthalmology
Cohen, Howard D	Otorhinology
Cortes, Felix	Medicine
D Annoco Robert A	Ophthalmology
DeLaurentis, Dominic A	Surgery
Dell, George A.	Pediatrics
Delp, William T	Obstetrics and Gynecology
Dodson, George E.	Obstetrics and Gynecology
Erickson, A. James	Obstetrics and Gynecology
Erickson, James C.	Anesthesiology
Fleming Burton A.	Psychiatry
Foreacre, Jane C.	Psychiatry
Forrest, John A., Jr	Pediatrics
Freeman, Alfred	Anesthesiology
French, Joseph H	Pediatrics
Frankl, William S.	Medicine
Furgiuele, Francis P	Ophthalmology
Gambalvo, Joan	Anesthesiology
Gionfriddo, Joseph R.	Radiology
Girsh, Leonard	Medicine
Gotliban, Jacqueline	Pediatrics

Graves, Charles C	Psychiatry
Greenman, George	Pediatrics
Greenwood, Robert W	Orthopedics
Gribb, John J	Obstetrics and Gynecology
Guth, Paul H	Medicine
Hagner Samuel B.	Psychiatry
Hanson, Stephen M	Pathology
Harper John B.	Radiology
Hirsch, Herman	Psychiatry
Holmes, Elizabeth J	Pathology
Holteen, Willard P	Radiology
Hsia, Wellington	Anesthesiology
Hunt, Rexford H	Surgery
Jacobs, Eugene R.	Radiology
Johnsen, Sigurd E.	Radiology
Jones, Benjamin B	Obstetrics and Gynecology
Joseph, Rosaline R.	Medicine
Kaese, Werner E.	Obstetrics and Gynecology
Kimmich, Homer	Otorhinology
Leitzinger William, Jr	Pediatrics
Levy Walter	Pathology
Lopriore, Vito	Pediatrics
Lundy Lawrence	Obstetrics and Gynecology
MacMillan, Richard K	Medicine
Maiorana, S. LeRoy	Obstetrics and Gynecology
Maquera, Andreas G	Urology
Margarida, Leopoldo E.	Radiology
Marks, L N	Medicine
Marsh, Harry H	Pathology
Mattei, Juan	Obstetrics and Gynecology
McAllister Helen	Psychiatry
McCloskey John	Pediatrics
McEuen, Harry B., Jr	Radiology
McGregor Robert	Proctology
McKay Ernest G	Radiology
Menta, Dominic	Pediatrics
Merz, Berta	Pediatrics
Meyers, Theodore B.	Proctology
Narowski, Cecilia	Pediatrics
Nemzoff, Sol L.	Psychiatry
Omans, Walter	Pediatrics
O'Shea, Thomas H	Pediatrics
OuYang, Lin-Min	Proctology

Overman, Robert L.	Medicine
Pauley, Louis P	Pediatrics
Petrulio, Ernest J	*Pediatrics*
Ponce de Leon, Felipe	Proctology
Powell, Eva G	Pediatrics
Powers, Donald V	Medicine
Prasad, A. J. Ajit	Orthopedics
Prusky, Paul	Pediatrics
Quiroz, Manuel T	Ophthalmology
Riemer, Joseph T	Surgery
Rodgers, John T	Radiology
Rovine, Byron	Neurosurgery
Rumsey, William P	Surgery
Sale, Walter T	Radiology
Saker, Antonio	Orthopedics
Schlosser, Woodrow D	Otorhinology
Schulmann, Marcel	Orthopedics
Shawky, Yahya	Pediatrics
Sherwin, Roberta	Medicine
Sifre, Francisco	Medicine
Singleton, Winston	Pediatrics
Sneddon, John, Jr	Ophthalmology
Stewart, Robert L.	Obstetrics and Gynecology
Stoebenau, Eugene J	Pediatrics
Strenge, Henry J	Anesthesiology
Sullivan, Edward M.	Obstetrics and Gynecology
Sun, Donald I	Radiology
Tassoni, Ernest M	Pathology
Tobias, Gordon L.	Urology
Tollett, Charles A.	Surgery
Trauertz, Helen	Pediatrics
Tsuchihashi, Mitsutoshi	Pediatrics
Tulla, Miguel A.	Surgery
Vega, Luis	Pediatrics
Villalba, Guillermo	Proctology
Wang, C. Herbert	Radiology
Wilson, Michael P	Medicine
Winn, Harold	Psychiatry
Winters, William L., Jr	Medicine
Wolfe, Robert C.	Medicine
Wright, F. Malcolm	Surgery
Zion, Thomas E.	Pediatrics

REGISTER OF STUDENTS 1956-57

FRESHMAN CLASS

Name	*College*	*State*
Anderson, Claus L.	University of Pennsylvania	Pa.
A erna, Vincent S.	Haverford	Pa.
Banko, Steve	Washington and Jefferson	Pa.
Bechara, Thomas J.	University of Pittsburgh	Pa.
Becker, J. Peter	University of Pennsylvania	Pa.
Birtwell, William M., Jr.	Rutgers	N. J.
Bixler, Robert B.	Pennsylvania State University	Pa.
Bowen, Dale T.	Bucknell	Pa.
Broad, Bernard	Temple	Pa.
Buchheit, William A.	Duke	Pa.
Burg, Edward A., Jr.	Bucknell	Pa.
Carlson, John N.	Pennsylvania State University	Pa.
Casanova Roig, Ramon	University of Puerto Rico	P. R.
Chronister, Ted E.	Swarthmore	D. I.
Coggins, Eugene	University of Pennsylvania	Pa.
Cranston, John P.	Ursinus	Pa.
Crisafoto, Anthony J.	Johns Hopkins	N. J.
Crozier, Daniel G.	Geneva	Pa.
Cruz Cruz, Jose R.	University of Puerto Rico	P. R.
Demet, Michael B.	Hamilton	N. Y.
DeVincent, Henry G.	LaSalle	Pa.
Dunn, Marilyn A.	Ursinus	Pa.
Eberhart, Joseph C.	Bucknell	Pa.
Ellis, David M.	University of Pennsylvania	Pa.
Ellison, Julius	Philadelphia College of Pharmacy and Sciences	Pa.
Erb, Robert E.	Albright	Pa.
Fascella, James R.	Dickinson	N. J.
Fogel, Marvin	New York University	N. Y.
Foster, Robert E.	Franklin and Marshall	Pa.
Goldfine, Burton	Ursinus	Pa.
Gonzalez, Eduardo M.	University of Puerto Rico	P. R.
Green, Joseph E., III	Haverford	Pa.
Greenberg, Sanford L.	Temple	Pa.
Grove, William K.	Cornell	Pa.
Hardy, Richard L.	Washington and Jefferson	Pa.
Harvey, William D.	Pennsylvania State University	Pa.
Hayes, John R.	Bucknell	Pa.
Henderson, Kenneth W.	Temple	N. J.
Hill, Ermyl B.	University of Pittsburgh	Pa.
Himes, Louis H., II	Franklin and Marshall	Pa.
Hocker, George T.	Franklin and Marshall	Pa.
Hoffman, William W.	St. Joseph's College	Pa.
Holmes, Robert A.	University of Pennsylvania	Pa.
Hopkinson, John H., III	Syracuse	Pa.
Howe, Gerald E.	South Dakota University	S. D.
Hubbell, Robert H.	Syracuse	Pa.

Name	College	State
Hudock, Emanuel B Jr	Harvard	Pa.
Hullin, Stanley C.	University of Pennsylvania	Pa
Jespersen, Peter	Ursinus	N J
Johnson, Kim O	Utah State Agricultural College	Idaho
Kimmel, Donald L., Jr	Swarthmore	N J
Knapper William H	University of Florida	Fla.
Kozin, William	Temple	Pa
Krisch, Robert E.	University of Pennsylvania	Pa
Larsen, Robert R.	Bucknell	N J
Lehman, Clinton J	Scranton University	Pa.
Leone, Charles R.	University of Virginia	Pa.
Lewis, Fraser	Princeton	Pa
Liberta, Thomas R.	Lafayette	Pa.
Lichtenstein, Irwin M.	Temple	Pa
Linder, William R.	Franklin and Marshall	Pa
Lord, William H.	Albright	Pa.
Marshall, Jack H	Allegheny	P
Martz, Willard H.	Rutgers College of South Jersey	N J
McLamb, James R.	Williams	Pa.
Meurlin, Carolyn D	Wheaton	N J
Morse, James B.	Franklin and Marshall	N J
Morton, Robert C.	Grove City	Pa.
Motta, Gerald	University of Pennsylvania	Pa
Myers, Eugene N	University of Pennsylvania	Pa
Naugle, Floyd P	Bucknell	Pa.
Neff Bernard	Temple	Pa
Negron, Roberto A.	University of Puerto Rico	N Y
Nellis, Carol J	Goucher	Pa.
Nicholas, Bradley E.	Juniata	Pa.
Olney Franklin	Pennsylvania State University	Pa
Panter Barry M	Rutgers	N J
Pearce, Richard C.	*Lehigh*	Pa
Pearlstein, Hillard H.	Temple	Pa
Perry Lowell W	Albright	Pa.
Popky George L.	Swarthmore	Pa
Quigley Nelson J	Lehigh	N J
Reamer Donald M.	Susquehanna	Pa
Rech, Frank M.	Temple	Pa
Reinhart, John W	Albright	Pa.
Richardson, H Bartt	Haverford	N J
Ritt, Donald J	Wesleyan	Pa.
Rosenfeld, Howard	Temple	Pa.
Rutenberg, Harold L.	University of Pennsylvania	N J
Sakimura, I an T	Dickinson	Pa.
Samii, Akbar M	Lafayette	Iran
Saracheck, Bernard D	Swarthmore	Pa.
Saviano, Michael F	University of Notre Dame	N J
Schert, Ronald H	Harvard	Pa.
Shaw Caroll L.	Ursinus	Pa.
Shideler Blynn L.	Washington and Jefferson	Pa.
Short, Welland F	University of Delaware	Pa.

Name	*College*	*State*
Simeone, Frederick A.	Temple	Pa.
Singer Myra R.	University of Pennsylvania	Pa.
Skinner Glenn S Jr	University of Delaware	Del.
Smith, David E.	Williams	Pa.
Smith, Eugene C	Franklin and Marshall	Pa.
Smith, Glen E.	Susquehanna	Pa.
Smith, William C.	LaSalle	Pa.
Soler Lydia	University of Puerto Rico	P R.
Somerville, Sheryl A	Bucknell	Pa.
Sorensen, Bruce F	University of Utah	Utah
Spangler Ronald C.	Washington and Jefferson	Pa.
Stein, Herbert L.	Bethany	Pa.
Stewart, Robert M	Drew	N J
Stiefbold, Barbara L.	Swarthmore	N J
Strine, James A.	Muhlenberg	Pa.
Tan, Peter L	Da is and Elkins	P I
Taylor William F	Bucknell	Pa.
Torpey David J Jr	LaSalle	Pa.
Tredennick, Charles N	University of Pittsburgh	Pa.
Tregoning, Paul C.	Denison	Pa.
Tyson, John T	Swarthmore	Pa.
Walker Hugh F	Swarthmore	N J
Wallace, Lois A	University of Pennsylvania	Pa
Weaver W Ronald	Franklin and Marshall	Pa.
Weiland, Gustave J	St Joseph s	Pa.
Weiner Frank A.	Washington and Jefferson	Pa.
Weiss, Gary A	Temple	Pa.
White, Headley S Jr	Washington and Lee	Pa.
Williams, J hn M., III	Dartmouth	N J
Wong, Francisco M.	Yale	Canal Zone
Wong, Ming B.	Yale	N Y
Wood, Thomas E.	University of Washington	Wash.
Wright, Charles L., J	Temple	N J
Yerger John F Jr	Lafayette	Pa.

SOPHOMORE CLASS

Abramson, Ira J	Cornell	Fla.
Acosta Olmeda, Jose G	University of Puerto Rico	P R.
Adams, Lynn L	Dickinson	Pa.
Agre, Keith L.	University of Pennsyl ania	Pa.
Allan, William L	Princeton	Pa.
Amsler Fred R., Jr	Bucknell	Pa.
Anderson, Garland	Geneva	Pa.
Angros, Richard H.	Temple	Pa
Auerbach, Sidney	Temple	Pa.
Barclay Robert A.	Houghton	Pa.
Beale, Norman K.	Grove City	Pa.
Birnbaum, Martin J	Franklin and Marshall	Pa.
Bleacher John H	LaSalle	Pa
Bowman, John A	Franklin and Marshall	Pa.
Brennan, James R.	LaSalle	Pa.

Name	*College*	*State*
Bullock, Ward E.	University f Buffalo	N Y
Caspersen, John W	Rutgers	N J
Chapman, Joseph L., Jr	University of Pennsylvania	Pa
Chomsky David	Temple	P
Chun, Richard B. D	University of California	T H
Comerci, George D	Rutgers	Pa.
Conway Cyril F	University of Pennsylvania	Pa
Cooper Martin	Temple	Pa
Costanza, Agatha H	Barnard	P
Crapens, James F	*Franklin and Marshall*	*P*
Davis, Jack A.	Johns Hopkins	Fla
Dawkins, Carl E., Jr	Ursinus	Pa
Day Laurence L.	Washington and Jefferson	Pa
DeLimer, Robert B.	Iona	N Y
Denby Robert A.	Johns Hopkins	P
DeNegron, Maria F	University of Puerto Rico	P R.
de Quevedo Donald G.	Muhlenberg	Pa.
Duncan, William H	West Point	Pa
Dulwara, Stephen J	*Georgetown*	*Pa*
Egolf, Robert L.	Yale	Pa.
Eller Richard W	Haverford	N Y
English, Joseph G	Bucknell	Pa
Fahs, Gerald R.	Wheaton	Pa
Ferrer Jose L.	University of Puerto Rico	*P R.*
Fleishhorn, Patricia A	Duke	Pa
Foreman, Arthur H	Franklin and Marshall	Pa
Freda, John C.	Lafayette	N J
Friedman, Ronald H	Temple	Pa
Gerber Ingeborg	Temple	Pa.
Gerlach, William G	Lafayette	N J
Giannopoulos, Peter H	University of Virginia	Pa.
Gildenberg, Philip L.	University of Pennsylvania	Pa.
Glowacki, Francis L.	*University of Pittsburgh*	*Pa.*
Goldblatt, Sidney A	Pennsylvania State University	Pa.
Goldenberg, Mark T	Ursinus	Pa.
Goldfine, Alan	Temple	Pa.
Gordon, William F	LaSalle	Pa
Gotch, William J III	Geneva	Pa.
Haag, Eugene J	Ursinus	Pa.
Hall, Daniel A.	Howard	P
Harada, William A.	University of Hawaii	T H
Harring, Maynard L.	Muhlenberg	Pa
Hartford, Charles F	Franklin and Marshall	P
Holtzapple, Kenneth E.	Gettysburg	Pa
Honigman, Fredric H	Temple	Pa.
Jaffe, Ronald M	Temple	Pa.
Kamerer Donald B.	Washington and Jefferson	Pa.
Kardash, Thomas J	LaSalle	Pa
Kepner Robert S.	Grove City	Ohio
Kittredge, Francis L., J	University of Notre Dame	Pa.
Kollmer Joseph J III	St. Joseph's	Pa.

Name	College	State
Kretzing, Harold G	Albright	Pa.
Krosnoff John A	Yale	Pa.
Laccardo, John J	Rutgers	N J
Liebman, Emil P	Temple	Pa
Lipkin, Isadore	Temple	Pa
Malinowski, John A	St Peter's College	N J
Maravalli, Camille J	Washington and Jefferson	Pa
Mastrian, Anthony S	Washington and Jefferson	Pa.
McFarland, Robert P	Villanova	Pa.
McGlumphy Thomas H	Baker University	N J
McIlroy Robert D	Pennsylvania State University	Pa.
McLaughlin, George L.	University of Pennsylvania	Pa.
Mecca, Donato D	University of Scranton	Pa
Merkling, Fred C., Jr	Lafayette	N J
Metz, Jane A	Pennsylvania State University	Pa.
Middlekauff Robert K.	Michigan State Normal College	Pa.
Mignogna, Marie J	Immaculata	N J
Miller Wayne E	Susquehanna	Pa.
Minchin, Dallas O	Lafayette	Pa.
Minkoff Neal	LaSalle	Pa
Minor Robert B.	Waynesburg	Pa
Mitchell, Richard M	LaSalle	N Y
Morse, Harry C	Wagner College	N Y
Mulhatten, Donald I	Franklin and Marshall	Pa
Osler John H III	Haverford College	N J
Parlee, Donald I	Ursinus	Pa.
Parsons, Robert B.	Swarthmore	Pa.
Plavcan, William G	Ohio Wesleyan	Pa.
Posternack, Melwyn L	University of Pennsylvania	Pa.
Pruitt, John D	Oberlin	Pa
Roberts, Richard B	Dartmouth	Pa.
Rodgers, William H	University of Notre Dame	Pa.
Rosato, Donald J	Villanova	Pa.
Schatanoff Joseph	Haverford	Pa.
Schneck, Carson D	Muhlenberg	Pa.
Schweibert, Raymond H	Muhlenberg	N J
Semple, Joseph M.	University of Alabama	Pa.
Shader Alton E.	Miami University	Pa.
Shivers, Howard F J	Washington and Jefferson	N J
Silverman, Arthur L.	Temple	Pa.
Sivitz, Jay M	Trinity	Pa.
Slothour Edward F	Franklin and Marshall	Pa.
Smith, George S.	Muhlenberg	Pa
Smith, Thomas R.	Hiram College	Pa.
Sosnow Bertram F	Williams	N J
Spang, Roger S.	Albright	Pa.
Stauffer Edward S	Franklin and Marshall	Pa.
Swigart, Gene M.	Franklin and Marshall	Pa.
Ulrich, Richard G	Lehigh	Pa.
Van Brunt, Edmund E.	University of California	Pa.

Name	College	State
Walden, William D	University of California at Los Angeles	Pa
Wilson, Emmett, Jr	University of Oklahoma	Okla.
Zaladonis, Joseph J	University of Scranton	P

JUNIOR CLASS

Name	College	State
Allen, Kenneth J	West Virginia University	W Va.
Allington, John H	University of California	Cal
Balderson, Robert P	Harvard	Pa
Beach, Paul M Jr	Lehigh	N J
Bernhard, Robert A.	Ursinus	Pa
Black, Leo F	Bucknell	Pa.
Buzzard, Thomas A	Bucknell	Pa
Catherman, Robert L.	Bucknell	Pa.
Cinelli, Clero G	St. Joseph's	Pa.
Coolidge, William A.	Harvard	Pa
Cornell, Homer L.	U S. Naval Academy	Pa.
Crain, Richard H.	Carnegie Institute of Technology	Pa
Davy John R.	Yale	Pa.
Demko, Joseph N	University of Scranton	Pa.
Dempsey James G.	University of Pennsylvania	Pa.
Devine, Michael F Jr	St. Joseph's	Pa.
Dilks, Lois J	University of Pennsylvania	Pa.
Dunkle, David B.	William and Mary	Pa.
Emeterio, Louis C.	Washington and Jefferson	Pa.
Erway Preston M.	Mansfield State Teachers College	Pa.
Fenner Henry E., J	University of Pittsburgh	Pa.
Fink, Paul J	Temple	Pa
Fox, Richard E.	Lafayette	Pa.
Freimuth, Erich J	Ursinus	Pa.
Friedman, Wilma S	Temple	Pa.
Gatti, Dominic L.	Villanova	Pa.
Good, Roger C.	Haverford	Pa.
Hagan, Eugene P Jr	LaSalle	Pa.
Hanes, Robert B.	Temple	Pa.
Hardenburg, Harold C J	Princeton	N J
Harris, William T	University of Pennsylvania	Pa.
Hauser Norman	Temple	Pa.
Hare, Donald D	Western Maryland College	Del.
Hawkinson, John A.	Yale	Minn.
Hayman, Ronald	University of California	Cal
Hering, C. Fred, III	University of Pennsylvania	N J
Herring, Allen B	Temple	Pa.
Hoberman, Richard S.	University of New Mexico	Pa.
Hollen, Robert A.	Pennsylvania State University	Pa.
Holmes, Richard A.	Lincoln University	N J
Hoyt, John C.	University of West Virginia	Pa.
Ickler John L.	Amherst	Pa.
Jacobs Glenn	Dickinson	Pa.
Jaffe, Jerome H	Temple	Pa
Kelso, Don R.	Bucknell	Pa.

Name	*College*	*State*
Kern, John D	Temple	Pa.
Kyrtaia, James T	Lafayette	Pa.
Larson, Theodore S Jr	Bucknell	Pa.
Lehman, John W	Allegheny	Pa.
Lester Glenn F	Gettysburg	Pa.
Lerner Harvey J	University of Georgia	N J
Levan, Gene M.	Lehigh	Pa.
MacDonald, Donald I	Williams	N Y
Mackall, Samuel J	Allegheny	Pa
Maier Willis P Jr	Guilford	N C
Marble, William A.	University of South Dakota	S. D
Martin, John H	Gettysburg	Pa.
Mason, James G B	Temple	Pa
McDonough, Patrick J	University of Notre Dame	Pa
McElfresh, Charles W	Gettysburg	Pa.
McElwee, Charles B., Jr	Trinity	N J
McGowan, Ronald L.	Dickinson	Pa.
McGrath, Joseph M.	University of Notre Dame	Pa.
McWhirter William R.	Grove City	Pa.
Meader Willard L.	Albion College	Pa.
Mickens age, Robert C.	Susquehanna	Pa.
Miller Murray C Jr	Temple	Pa.
Mummery Charles R.	Denison	Pa.
Naso, Francis	Villanova	Pa
Nesh, Donald D Jr	Grove City	Pa.
Nelson, James W	Northwestern	Conn.
Newman, Julius	Temple	Pa
Novack, Alvin	Temple	Pa
Nunan, Francis A Jr	Harvard	Pa.
Ordway M. Vernon	Princeton	Pa.
Orff Mary C.	Wilson	Pa.
Orlowski, Arthur H	Bethany	Pa.
Panettieri, Reynold A	University of Scranton	Pa.
Patterson, Richard J	Dickinson	Pa.
Pelham, Richard O	Bucknell	N Y
Peterson, Ronald G	Bucknell	Pa
Pileggi, Anthony J J	Dickinson	N J
Potter Wilfred M	Johns Hopkins	N J
Rachman, Raymond A	Temple	Pa
Reed, William D	Waynesburg	Pa
Reidenberg, Marcus M	Cornell	Pa.
Rhood, Samuel G	Dickinson	Pa.
Robles, Emma E.	University of Puerto Rico	P R.
Rudnick, Abraham H	New York University	N Y
Russell, John P	Worcester Polytechnic Institute	Pa.
Russo, Ronald F	Villanova	Pa.
Sanner Edgar G Jr	Georgetown	Pa.
Schaffer David W	Muhlenberg	N J
Scheetz, Walter L.	Pennsylvania State University	Pa.
Schmiege, Gustav R	Rutgers	N J
Schultz John G.	King's College	Pa.

Name	*College*	*State*
Sembrot, William B.	Temple	Pa.
Shane, Ronald W	Muhlenberg	Fla.
Sheets, Joseph L.	Denison	Mich.
Shultz, Thomas E.	Albright	Pa.
Solnick, Paul B	Temple	Pa.
Stanislow Eugene	Cornell	Conn.
Steege, Harrison T	Wesleyan	Pa.
Stimerson, Doris M	Vassar	Pa.
Swartz, Philip K., Jr	Dartmouth	Cal.
Templin, William B.	Susquehanna	Pa.
Tibbels, Ewing W	Ursinus	N J
Tilock, Fred H.	Bethany	Ohio
Torp, Richard P	Clarion State Teachers College	Pa.
Treiman, Paul	Temple	Pa.
Udall, John A.	Brigham Young University	Ariz.
Wasko, Robert	University of Pennsylvania	Pa.
Westcott, Richard J	Dickinson	Pa.
Wilson, Robert F	Lehigh	Pa.
Wong, Fue L.	Ursinus	Pa.
Wright, George F	Pennsylvania State University	Pa.
Young, George M.	Gettysburg	Pa.
Zarochni, Gerald L	Temple	Pa.

SENIOR CLASS

Aeckerle, Kathleen	Ursinus	Pa.
Allen, Bruce H.	University of South Dakota	S. D
Arnas, George C.	West Virginia University	W Va.
Balent, Allan	Washington and Jefferson	Pa.
Becker Joshua A.	Temple University	Pa.
Badikian, Armand	Rutgers University	N J
Bedotto, Remo	Muhlenberg	Pa.
Benjetsky Bernard E.	Temple	Pa.
Berenato, Santo J	University of Pennsylvania	N J
Bixler, Henry N	Albright	Pa.
Bremer James J	Villanova	N J
Binder Gottfried H J	University of Pennsylvania	Pa.
Bradley William A., Jr	Westminster	Pa.
Carlsen, Donald A	University of North Dakota	N D
Carpenter Sterling	Princeton	Pa.
Clark, Lawrence M	Grove City	Pa.
Corson, Richard H	Haverford	N J
Courtney Robert J	Temple	N J
Courtney William B.	Allegheny	Pa.
D'Andrea, Vincent J	LaSalle	Pa.
Deak, Robert E.	University of Notre Dame	Pa.
Donelan, G. Lynn	Western Reserve	Ohio
Drench, Eugene W	Villanova	Pa.
Early Warren L.	Lebanon Valley	Pa.
Eichler George R.	Muhlenberg	Pa.
Entwistle, Frederick R.	Dartmouth	N J
Ermold, Donald R.	Albright	Pa.

Name	College	State
Fahrman, Arthur	Temple	Pa.
Fichtan, William W	Haverford	N J
Force, Thomas B.	Bucknell	Pa.
Frankenburg, William K.	Franklin and Marshall	Pa.
Frohwein, John	Temple	Pa.
Fry Robert L	Gettysburg	Pa.
Fulton, Paul T	Williams	N Y
Fulginiti, Vincent A.	Temple	N J
Fulmer Roger C.	Muhlenberg	Pa.
Garey Herman S.	Dickinson	Pa
Gasull, Henry R., Jr	Dickinson	Pa.
Gambara, Donald P	Franklin and Marshall	Pa.
Getzik, William	Temple	Pa.
Goldman, Harvey	Temple	Pa.
Goodwin, Stanley L	University of Michigan	N Y
Gordon, Alen E.	University of Pennsylvania	Pa.
Grammes, Charles F	Franklin and Marshall	Pa.
Greaves, Edward D	Lafayette	Pa.
Greene, Donald H	University of Pennsylvania	Pa.
Greenstein, Robert	Temple	Pa.
Grossman, Gilbert	Villanova	Pa.
Harman, Robert G.	Moravian	Pa.
Harris, Neil R.	Indiana University	Ind.
Harvey Kenneth L.	Dickinson	Pa.
Hemig, Richard S.	Rutgers	Pa.
Helm, Walter J	Harvard	Pa.
Henry Thomas S., II	Monmouth	Pa.
Herman, Robert S.	University of Pennsylvania	Pa.
Hills, Jon K.	Haverford	Pa.
Horrell, Eugene D	University of South Dakota	S. D
Hughes, John P	Rutgers	N J
Hurwitz, Zelda P	Pennsylvania State University	Pa
Hutson, Edward D	University of Florida	Fla.
Jones, George R Jr	Washington and Jefferson	Pa.
Kachel, Charles V	Albright	N J
King, John W	Haverford	Pa.
Klotz, Roy G Jr	Temple	Pa.
Kohl, David H	Denison	Pa.
Kreider Philip L.	Dartmouth	Pa.
Kressinger Robert C.	University of Pittsburgh	Pa.
Liewin, Frederick	Pennsylvania State University	Pa.
Lin, Namen	Wesleyan University	Pa.
Manko, Michael A.	University of Pennsylvania	Pa.
Martucci, Albert A.	LaSalle	Pa.
McDevitt, James J	LaSalle	Pa.
McLaughlin, Joseph C.	Sacramento State Teachers College	Cal.
Mercado-Lugo, Roberto	Polytechnic Institute, P R.	P R.
Miller James R	Princeton	Pa.
Millspaugh, Frederick W Jr	Haverford	Pa.
Moberg, Frank B.	Allegheny	Pa.
Molina y Vedia, Marcelo A	Duke	Pa.

Name	College	State
Mussell, Joseph R.	Franklin and Marshall	N.J.
Myers, Jeffrey	University of Pennsylvania	Pa.
Nelson, Arthur D	West Point	Pa.
Nado, Michael P	Geneva College	Pa.
O'Connor, John P	St. Bonaventure	Pa.
Or, Richard H.	University of Hawaii	Hawaii
Palmer, William E., Jr	Geneva	W. Va.
Peterson, Jay B., Jr	Washington and Jefferson	Pa.
Pherson, William J	Westminster	Pa.
Pierro, Thomas M.	Bethany	Pa.
Pratt, Russell J	Thiel	Pa.
Rebollo, Ernest W	Rutgers	N.J.
Ross, George B., Jr	LaSalle	Pa.
Rex, Ira H., Jr	Lafayette	Pa.
Roehm, John O., Jr	Rutgers	N.J.
Rosenbaum, Jerry L.	Temple	Pa.
Ryan, Richard R.	LaSalle	Pa.
Sapp, Joan M.	Ursinus	Pa.
Sendoke, Paul	Temple	Pa.
Scheibling, Norman J	Yale	N.Y.
Silva-Fort, Raul G	University of Puerto Rico	P.R.
Silvan, Richard J	Franklin and Marshall	Pa.
Smalley, Richard N	Hamilton	Pa.
Somerndike, John M.	Haverford	WH.
Steinberg, Allen J	Temple	N.J.
Stevenson, Robert E.	Grove City	Pa.
Sullivan, William A.	University of Pittsburgh	Pa.
Taylor, James H	University of Delaware	Del.
Thidgeman, James H	Lafayette	Ohio
Torp, Raymond T	Upsala	N.J.
Tourtellotte, Charles D	Johns Hopkins	N.J.
Tredennick, John T	Bucknell	Pa.
Tully, Vincent J	University of Notre Dame	Pa.
Tyson, Elizabeth A.	Mount Holyoke	Pa.
Weimer, Alvin	Muhlenberg	Pa.
Wheeler, John P	University of Pittsburgh	Pa.
Wildrick, Laurence I.	Rutgers	Pa.

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School of Business and Public Administration
School of Fine Arts

PROFESSIONAL SCHOOLS
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School of Law
School of Medicine
School of Pharmacy
School of Dentistry
School of Chiropody
School of Oral Hygiene
School of Nursing
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TEMPLE UNIVERSITY HOSPITAL